Unmoderated Posters, Monday, September 9 – Wednesday, September 11, 0900-1600

UP.001

Specific Body Mass Index Cut Off Value in Relation to Survival of Patients with Upper Urinary Tract Urothelial Carcinomas

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Introduction and Objectives: Prognostic markers for patients with upper tract urothelial carcinoma (UTUC) in descriptive characteristics, including patients body composition, age, gender, and so on, may offer the opportunity for easily, more objective and reproducible measurement before operation compared to conventional clinicopathological characteristics. Solid linkage between BMI and cancer risk are reported in varying sort of malignancies, but never been studied in UTUC. We studied the prognostic value of BMI (body mass index) in patients with UTUC.
Materials and Methods: We evaluated 153 patients who underwent surgery for UTUC (any T stage, N0-1, M0) between 1996 and 2009 at our institution. Of the 153 patients screened for the study, 103 patients were found to have comprehensive clinical and pathologic data available, and were included in the analysis. The following clinical and pathologic variables were evaluated: gender, age, bladder tumor at diagnosis, body mass index, tumor focality, tumor side, serum level of C-reactive protein, histological type, pathological grade, microvascular invasion, lymphovascular invasion, and pathological stage. Tumor grading was assessed according to the 1998 World Health Organization/International Society of Urologic Pathology consensus classification. The BMI was categorized based on WHO recommendations for Asians. Patients were stratified by BMI: 22 or greater versus less than 22. Continuous nonparametric variables were presented as the median values and interquartile ranges. F-test was used to test if the standard deviations of two populations are equal. Chi-square tests were conducted to assess the differences in covariate distributions between the BMI categories. CSS (cancer-specific survival) was defined as the primary endpoints in this study. OS (overall survival), CSS, and RFS (recurrence-free survival) was estimated using the Kaplan-Meier method. Multivariate analysis was performed with the Cox regression model.
Results: The mean age was 68.62 years (interquartile range: 62 - 75). During follow up, 45 patients (43.7%) had died of UTUC, 12 (11.7%) had died of other causes, and 38 (36.9%) had evidence of disease recurrence. Median follow up in surviving patients was 29 months (interquartile range: 14 - 63). The tumor focality was unifocal in 84 (81.6%) and multifocal in 19 (18.5%) patients. The tumor side was right in 55 (53.4%) and left in 48 (46.6%). Bladder tumor was found at diagnosis of UTUC in 28 (27.2%). The mean (± SD) BMI at surgery for all patients was 22.97 ± 3.44 kg/m^2 (range: 15 – 35). Sixty five (63.1%) patients had a BMI of 22 or greater and 38 (36.9%) had a BMI less than 22. When comparing risk parameters between BMI categories, only gender was significantly different. Patients with a BMI 22 or greater was significantly more likely to be male (p=0.013). There was a trend toward more frequent multifocal tumor and more frequent microvascular invasion with smaller BMI, but this did not achieve statistical significance (p=0.074 and 0.073, respectively). Kaplan-Meier analyses performed on the whole cohort demonstrated a significant trend toward decreased OS in patients with a BMI less than 22 compared to those with a BMI of 22 or greater (log rank p=0.0069). No survival differences were observed when patients were stratified according to other BMI cut-off values (p = 0.609; cut-off of 23, p = 0.526; cut-off of 24, and p = 0.438; cut-off of 25). The CSS was significantly different between BMI categories (log rank p = 0.0031). On multivariate analyses, among other descriptive variables, BMI, and tumor focality were associated with CSS (p = 0.047, HR 2.210 and p = 0.011, HR 3.667, respectively). Kaplan-Meier analyses performed in the whole cohort did not exhibit significantly different RFS between BMI categories (log rank p = 0.1067).
Conclusion: Our findings identify increasing BMI as an independent predictor for favorable OS and CSS in patients with UTUC.

UP.002

The Management of Extrinsic Ureteral Obstruction with Polytetrafluoroethylene Membrane-Covered Self-Expandable Metallic Stents: Initial Experience

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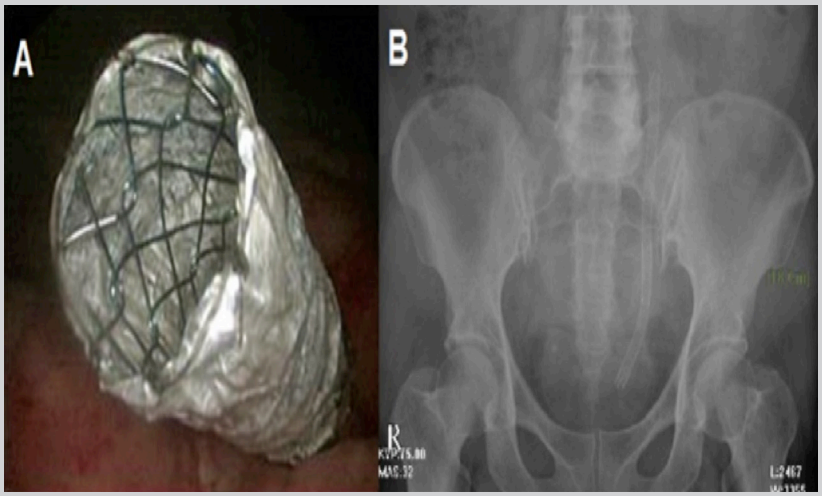
Introduction and Objectives: We report our initial experience with polytetrafluoroethylene membrane-covered self-expandable metallic stents (UVENTA® stent, Taewoong Medical, Seoul, Korea) for the extrinsic ureteral obstruction with the failure of pre-existing double-J ureteral stents.
Materials and Methods: Between September 2010 and October 2012, 20 consecutive patients (9 men and 11 women; mean age, 50.8 ± 10.9 years) underwent placement of UVENTA stents for unilateral or bilateral extrinsic ureteral obstruction with the failure of pre-existing double-J ureteral stents. The UVENTA stents were inserted retrogradely under

UP.002, Fig. 1. (A) Cystoscopic view of the UVENTA stent after insertion. (B) KUB after the UVENTA stent insertion



cystoscopy and C-arm guidance. We analyzed the success rate and complications associated with the procedure.
Results: A total of twenty-six renal units were performed UVENTA stent insertion. The mean number of stent per renal unit was 1.8. The mean length of obstruction was 14.5 cm (range, 1 to 22 cm). Two ureters were obstructed in the upper ureter, one in the lower ureter, and twenty-three in multiple levels of ureter. UVENTA stents were successfully inserted in all patients. Figure 1 shows cystoscopic view of the UVENTA stent and KUB after insertion. No obstruction of the UVENTA stents occurred during the mean follow-up period of 8.7 months (success rate 100%). There were two stone formations in the lumen of stent. There were no hyperplastic reaction, encrustation, or migration. No significant complications developed except for transient hematuria, frequency of micturation and mild lower abdominal pain.
Conclusion: UVENTA stents may be an alternative treatment modality for the extrinsic ureteral obstruction with the failure of pre-existing double-J ureteral stents. Despite encouraging early outcomes, clinical trials still are warranted, and longer follow-up is needed to assess the durability of this stent.

UP.003
Kidney Tumors: Our Study Group
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Introduction and Objectives: Kidney cancer is the sixth-most-frequent malignant tumor in men and seventh in women in Czech Republic. Chance to cure without early diagnosis and radical surgery is none, although targeted therapy allows at least contemporary control of advanced and metastased disease.
Materials and Methods: We performed 311 operations (nephrectomy or resection) for D41.0 with supposed diagnosis C64 in years 2001-2012. We investigated age, sex, laterality, location of tumor, its size according to CT or sonography and its histology, TNM classification and correlation with pTNM classification, grade, histologic types and ratio of smokers.
Results: There was histologically-proved renal carcinoma in 285 cases, in 192 men and in 81 women. There was papillary renal cell carcinoma in 40 cases, mucinous and spindle cell carcinoma in two men, one carcinoma of Bellini ducts and three chromophobe renal carcinomas. There was clear cell renal cell carcinoma in the remaining cases. There was proven urothelial cancer in six cases. There were benign tumors in 24 cases (1 multicystic nephroma, 18 oncocytomas, 1 metanephric nephroma, 4 angiomyolipoma). There were 3 renal infarctions and 1 benign cyst. These findings (33 cases) and some incomplete data were excluded from our study group. Average age was 65—in women, significantly higher. Histopathology grade 2 was found most frequently in more than two-thirds of cases. pTa category was most frequent. Current and previous smokers were more frequent than in normal population.
Conclusion: We proved more frequent occurrence of renal cancers in men and higher ratio of smokers in study group than in the normal population in Czech Republic. Kidney cancers occur in women of higher age than in men. Most frequently we found cancers of first stadium and moderate differentiation. Significantly more frequent is papillary renal cell carcinoma in men (ratio 13:1).

UP.004
Acute Renal Infarction: Clinical Characteristics of 26 Patients
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Introduction and Objectives: We analyzed the medical records of patients with an established diagnosis of acute renal infarction to identify predictive parameters of this rare disease.
Materials and Methods: All 26 patients (16 male) who were admitted to our hospital between 2000 and 2012 were diagnosed by contrast-enhanced computed tomography (CT) as having acute renal infarction. We screened the records of the 26 patients for a history with increased risk for thromboembolism or atrial fibrillation: Af, clinical symptoms, and urine and blood laboratory results known to be associated with acute renal infarction.
Results: A history with increased risk for thromboembolism with 1 or more risk factors was found in 19 of 26 patients (73%); risk factors were Af (n = 19), previous embolism (n = 3), mitral stenosis (n = 3), hypertension (n = 13), and ischemic cardiac disease (n = 4). All patients reported persisting pain predominantly from the flank (n = 11), abdomen (n = 4), and lower back (n = 2). On admission, elevated serum LDH: lactate dehydrogenase was found in 18 (69.2%) patients, and hematuria was found in 18 (81.8%) of 22 patients. After 24 hours 24 (92.3%) patients showed an elevated serum lactate dehydrogenase. In no case was the diagnosis of acute renal infarction initially entertained. Eleven patients were treated with intravenous heparin and another 6 cases with a combination of i.v. heparin and renal intra-arterial urokinase infusion. With the exception of this one patient (with pulmonary embolism), in all other cases serum creatinine levels remained unchanged or reverted to the baseline mean of 1.3 mg/dl (0.9-1.5).
Conclusion: Acute renal infarction is not as rare as previously assumed. Our findings suggest that in all patients presenting with the triad--high risk of a thromboembolic event, persisting pain, elevated serum levels of LDH and/or hematuria within 24 hours after pain onset--contrast-enhanced CT should be performed as soon as possible to rule out or to prove acute renal infarction.

UP.005
Left Kidney Cancer in Women and Bone Metastases
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Introduction and Objectives: The objective of this study was to evaluate the prognostic factors of renal carcinoma in predicting clinical outcome as well as to report our data regarding the association of the left renal carcinoma in women with bone metastases.
Materials and Methods: There have been 108 radical nephrectomies performed in patients with renal carcinoma. Histopathology examination had defined the histological type of carcinoma as well as other prognostic factors. CT scan and bone scan had been performed in order to identify cancer metastases. The correlation between renal cancer metastatic potential and other prognostic factors have been evaluated according to Kaplan-Meier method.
Results: Patients' mean age at diagnosis was 55.6 years. Metastatic renal carcinoma has been found in 41.6% of patients. The mean time of cancer metastases was 8 months. The most common metastatic site was lung in 60 % of cases, followed by bone in 55% of cases. Of cases with bone metastases, 64% were females, with the primary cancer of the left kidney, in 68% of patients. There was 53% of patients who had bone metastases in multiple concomitant metastatic sites. Patients with solitary bone metastases had a better survival ($p < 0.001$) than patients with

multiple bone metastases or additional visceral metastases. The median overall survival for patients with bone metastases was 12.5 months.
Conclusion: Our data suggests a possible connection between left renal cancer in women and bone metastases. Therefore, more efforts should be made in order to investigate specific factors that could predispose association of left renal cancer in women and bone metastases

UP.006
Effect of Ang-2/VEGF Bispecific Antibody on Tumour Interstitial Fluid Pressure in Renal Cell Carcinoma
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Introduction and Objectives: The therapeutic efficacy of chemotherapeutic drugs and monoclonal antibodies depends on the ability of these molecules to reach their target in adequate quantities. The elevated tumour interstitial fluid pressure (TIFP) due to high vessel permeability and cell density around the blood vessel impedes the access of therapeutic agents to cancer cells. Hence TIFP was investigated in renal tumour xenografts whether it would be improved by a novel bispecific-antibody (CrossMab) against angiopoietin-2 (Ang-2) and vascular endothelial growth factor-A (VEGF-A) simultaneously.
Materials and Methods: Human renal cell lines (A498, SN12C and Caki1) were inoculated in athymic mice. Tumour-bearing animals were randomised to control and treatment groups with several dosages. TIFP was measured with the modified wick-in-needle technique in both groups before and after treatment. Tumours were sectioned and stained for micro-vessel density. Stained sections were viewed with a microscope and analysed by imageJ software. Gene expression profiling was also evaluated.
Results: CrossMab treatment induced significant reduction of tumour volume and TIFP in SN12C xenograft tumours from 8.96±1.05 mmHg to 5.02±1.04 mmHg ($p < 0.001$, $n = 30$). In contrast, human VEGF-A monoclonal antibody, namely bevacizumab, did not significantly reduce tumour volume and TIFP in Caki1 xenograft tumour. Significant decreased MVD was also found in the CrossMab treatment in SN12C xenograft tumours at the end of experiment. Compared to bevacizumab and LC06 which blocks human and murine Ang-2, CrossMab is a higher effective for inhibiting tumour growth and reducing tumour weight in SN12C xenografts. Gene expression profiling indicated that mouse angiogenesis-related genes have significantly down-regulated in the CrossMab-treated tumours but human angiogenesis-related genes did not change.
Conclusion: Importantly, this is the first study demonstrating that decrease in TIFP was significantly correlated with the change of tumour size on CrossMab treatment suggesting that simultaneous blockade of VEGF-A and Ang-2 is effective for tumour angiogenesis and vascular permeability in RCC xenograft model.

UP.007
The Myogenic Contractility of the Stented Porcine Ureter
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Introduction and Objectives: Indwelling double J (DJ) stents are known to interfere with coordinated ureteral peristalsis, potentially harming the unidirectional transport of urine and triggering hydroureteronephrosis. Coordinated smooth muscle contractions of the ureter are initiated by spontaneously active pacemaker cells in the renal pelvis and are regulated via myogenic actions. However, the exact interplay of neurogenic and myogenic mechanisms operating to ensure coordinated ureteral smooth muscle contractions are poorly understood. The present study aims to investigate the impact of DJ stents on smooth muscle morphology and contractility in stented porcine ureters.
Materials and Methods: Eight farm pigs underwent unilateral stent insertion and ureteral peristalsis was assessed macroscopically in vivo at 48h (group 1) or 7 days (group 2) post stent placement. Ureters were harvested bilaterally in each animal before ring segments (3 mm in width) of the proximal ureter were isolated to determine smooth muscle contractility in vitro. This was performed in a Krebs Henseleit bath at 37C, using 3s supra-maximal electrical-field stimulations (EFS) set to occur at 5-min intervals until a stable maximal force was achieved. Masson's Trichrome staining of formalin-fixed, paraffin-embedded ureter segments were utilized to determine smooth muscle amount and orientation. Four non-stented animals served as controls.
Results: Overall, DJ stents significantly decreased ureteral smooth muscle contractility. Peristalsis was completely abolished in stented ureters in vivo compared to an average contraction frequency of 2 / min in controls. Spontaneous peristalsis did not return within 30 minutes after stent removal. In vitro, ureteral contractility reduced to a relative force of 39.3% (+/- 12.1) of normal in 48h stented ureters (group 1) whereas the relative force in 7 day stented ureters (group 2) was 58.6%(+/- 14.8).
Conclusion: DJ stents abolish ureteral peristalsis in-vivo and decrease smooth muscle contractility in vitro which is more pronounced 48h than 7 days post stent placement, suggesting partial recovery may initiate as soon as 7 days post stent insertion. However, in vivo ureteral peristalsis did not restore acutely after stent removal. Longer follow-up studies are necessary to determine if and when myogenic contractility recovers completely and ureteral peristalsis returns after a stent is removed.

UP.008
Mammalian Target of Rapamycin Inhibitors (MTORi) in Patients with Renal Angiomyolipomas
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Introduction and Objectives: Historically renal angiomyolipomas (AML) have been managed by urologists either by angioembolization or surgical resection especially when presenting with acute hemorrhage large size. Risk of bleeding in these tumors is directly related to their size. In patients with enlarging AMLs, multiple lesions or solitary kidney, it will be very helpful to have an agent available that can be used electively for shrinking the tumor and preventing the bleeding. Recently MTORi have been used in patients with Tuberous sclerosis complex with encouraging results. We investigated the available data concerning use of mTOR inhibitors specifically concerning treatment of renal AML.
Materials and Methods: Using OVID Medline, PubMed we performed a literature search for the terms "angiomyolipoma" AND either "rapamycin OR sirolimus" and "everolimus" limited to "English Language", "Humans", and "Therapeutics".

"Rapamycin OR sirolimus" returned 397 results with 7 relevant publications; "everolimus" returned 101 results with 2 relevant studies. We screened these for abstracts and articles containing case reports and larger treatment series, and reviewed these studies for number of patients treated, medication administration and dosing adjustment parameters, duration of treatment, screening, and results with regard to decrease in target AMLs size and incidence of hemorrhage, tolerability of medication, and complications and adverse events (AEs).
Results: A total of 254 patients were treated: 97 with sirolimus and 157 with everolimus. Two patients treated with sirolimus had at least one lesion which did not respond (2.1%), 2 treated had renal hemorrhage 92.1%). Studies used a lower dose of sirolimus (serum trough = 1-6 ng/ml) titrated up (10-15 ng/ml) if insufficient response was seen after 2 and 6 months of treatment. Everolimus was used at 5-15 ng/ml trough level in 78 patients and 10 mg/day in 79 patients. Of 34 patients followed after medication was withdrawn, 15 had progression of lesions, 18 (53%) remained stable, and 1 had sustained response.
Conclusion: MTORi can potentially provide non-surgical treatment options for patients with AML who have enlarging lesions, multiple lesions, or solitary kidney. Long-term trials are needed to confirm.

UP.009
Serum Cystatin C in Patients with Intestinal Urinary Diversion and in Those with Postrenal Acute Kidney Injury: A Prospective Multicenter Study
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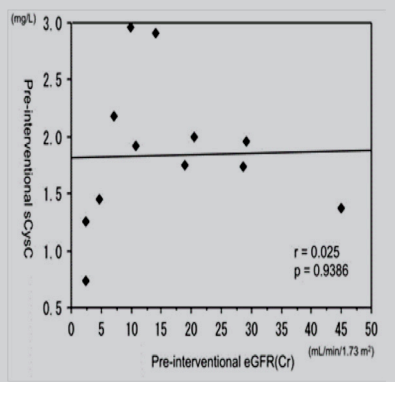
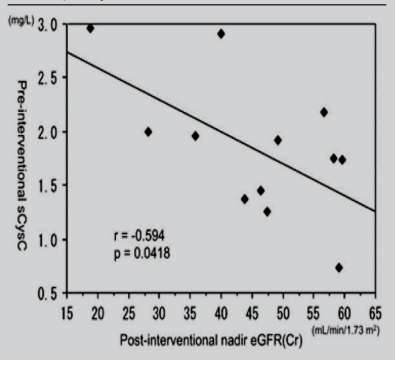
Introduction and Objectives: Serum cystatin C (SCysC) has been shown to be an accurate marker of the glomerular filtration rate (GFR). However, data of patients with abnormal urinary tract conditions such as intestinal urinary diversion and urinary tract obstruction are lacking. In this prospective study, we measured sCysC, evaluated the association with SCr and estimated GFR based on SCr, that is eGFR(Cr), in patients with intestinal urinary diversion and in those with postrenal acute kidney injury (PR-AKI).
Materials and Methods: SCysC, SCr and eGFR(Cr) were measured in 35 patients who had undergone intestinal urinary diversion and 12 with clinically diagnosed PR-AKI between July 2012 and January 2013. In those with PR-AKI, nadir SCr after resolution of the obstruction was also evaluated.
Results: In those with intestinal urinary diversion, SCysC was significantly correlated with eGFR(Cr) ($r = -0.791$, $p < 0.0001$). On the other hand, there was a discrepancy between SCysC and eGFR(Cr) in those with PR-AKI ($r = 0.025$, $p = 0.9386$; Figure 1). In them, however, preinterventional SCysC was significantly correlated with postinterventional nadir eGFR(Cr) after resolution of the obstruction ($r = -0.594$, $p = 0.0418$; Figure 2).
Conclusion: SCysC is correlated with eGFR(Cr) and can be used as a marker for GFR in patients with intestinal urinary diversion. On the other hand, preinterventional SCysC is not compatible with SCr and eGFR(Cr), but can be a predictor of GFR after resolution of the obstruction in PR-AKI patients.

UP.009, Graph 1.



UP.009, Graph 2.



UP.010
Single Institution, Randomized Study to Compare the Efficacy and Safety Between Laparoendoscopic Single-Site (LESS) Surgery and Conventional Laparoscopic Surgery for Uretero-Pelvic Junction (UPJ) Stone
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Introduction and Objectives: The study was done to confirm the efficacy and safety of laparoendoscopic single-site (LESS) surgery in comparison to conventional laparoscopic (CL) surgery for the treatment of upper urinary tract stones.
Materials and Methods: This is a prospective randomized controlled trial comparing LESS and conventional laparoscopic pyelolithotomy in 2 centers for a period of one year. Preoperative characteristics were compared between both groups. Two experienced laparoscopic surgeons performed the surgeries. Intra- and post-operative findings and complication were among the outcomes studied. Stone clearance rate during the first clinic visit was compared between the two groups. Results were analyzed using SPSS software. Mann-Whitney U-test and chi-square test were used to compare factors of patients, stones, and surgery. P-value of <0.05 was considered statistically significant.
Results: There was no difference between the two groups in the preoperative factors. There was no difference in the intra-operative time, estimated intra-operative blood loss, duration of indwelling urethral catheter, length of hospital stay, post-operative pain scores before discharge and change in renal function. There was also no difference in the analgesic usage and complication rates. There was no conversion to open surgery in both groups. The incidence of residual stones, which were found in the CT scan a month after the surgery, was similar in both groups. The stone clearance rate was 100%.
Conclusion: LESS showed the equivalent effectiveness and safety compared to conventional laparoscopy for the treatment of upper urinary tract stones.

UP.011
Factors Predicting Difficult Laproscopic Simple Nephrectomy: A Prospective Study
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Introduction and Objectives: "Simple Nephrectomy" is a misnomer. Simple nephrectomies at times can be challenging. This fact assumes importance while contemplating laparoscopic Nephrectomy. In this study, we aim to outline the factors predicting difficulty in laparoscopic Nephrectomy.
Materials and Methods: We performed a prospective study in 50 consecutive patients undergoing laparoscopic transperitoneal simple nephrectomy.Factors considered to influence technical challenges in laproscopic simple nephrectomy were identified. Each of these factors were assigned a score preoperatively The factors analysed were Gender, presence of a preplaced nephrostomy tube, evidence of pyonephrosis, BMI, presence of palpalble lump, flank pain, poistive culture, Side to be operated, size of the kidney, perinephric fat stranding and presence of internal ehoes on imaging, history of prior intervention, presence of any anomalies and lymph nodes. The operating surgeon was blinded to this score a difficulty score (Visual analogue score) was elicited from the operating surgeon on a scale of 1 to 10. The difficulty score was elicited for 10 steps of the procedure commencing with port placement and concluding with laproscopic exit. By keeping surgeon VAS score as a dependent variable a multivariate regression analysis was done using the covariates described above. The analysis was carried using SPSS Version 15.0.
Results: The variables shown in Table 1 were found to be significant: The variables gender, presence of a preplaced nephrostomy tube, BMI, presence of palpalble lump, flank pain, Side to be operated, size of the kidney, presence of internal ehoes on imaging, presence of any anomalies and lymph nodes were found insignificant and did not influence the level of difficulty encountered.
Conclusion: Our multivariate analysis suggests that Perinephric stranding on CT scan, intrarenal and perirenal pus collection, positive urine culture, prior history of open/endourologic renal intervention are predictive of a difficult laproscopic nephrectomy Nephrectomy.

UP.011, Table 1.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
PFS_CT	1.835	.472	.406	3.887	.000
PUS	1.809	.513	.365	3.526	.001
Prior surgery	2.025	.760	.253	2.663	.011
Culture	1.086	.513	.200	2.118	.040
BMI	-.103	.049	-.199	-2.107	.041

UP.012
Laparoscopic Transperitoneal Renal Cyst Decortication
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Introduction and Objectives: The aim of this study was to report our experience with the laparoscopic transperitoneal treatment of simple renal cysts, to analyze the immediate and long-term clinical outcomes, and to evaluate the efficacy and safety of this miniinvasive surgical technique.
Materials and Methods: Since 2009 we diagnosed and treated a total of 42 patients (25 males and 17 females) with symptomatic simple renal cysts. The diagnosis was set up by ultrasound (US) and/or computed tomography (CT) examination. Demographic data, perioperative blood loss, duration of operative procedure, length of hospital stay and peri- and postoperative complications were analyzed. Follow-up included clinical examination and renal US, performed at 3-monthly intervals during the first year and yearly thereafter.
Results: Patient age ranged from 32 to 68 years (mean age 52.4 years). 37 (88.1%) of the cysts were peripheral, and 5 (11.9%) – peripelvic; 25 (59.5%) were localized to the left and 17 (40.5%) – to the right; and they ranged by size from 5 to 30 cm (mean 9.8 cm). 39 (92.9%) of the cysts were identified as class I, and only 3 (7.1%) - as class II, according to the Bosniak classification. All cases were managed by transperitoneal laparoscopic cyst decortication. None of them required conversion to open surgery. There were no peri- and postoperative complications. The average duration of the laparoscopic procedure was 54.8 min, and the average perioperative blood loss - 50 mL. All patients had negative cytological and histological findings indicative for malignancy. The follow-up period ranged from 2 to 48 months (average - 23.4 months). In 41 cases (97.6%) excellent therapeutic results were reported: complete relief of clinical symptoms, fast recovery of physical activity and patient quality of life. There were three recurrences (7.1%) met in patients with multiple cysts, but only one of them required repeated surgery.
Conclusion: Laparoscopic transperitoneal decortication is a miniinvasive, highly effective and safe method of treatment of symptomatic renal cysts. The immediate relief of clinical symptoms, the short period of reconvalescence, the excellent quality of life after surgery, and the low relapse rate confidently define it as the surgical method of choice.

UP.013
Laparoscopic Partial Nephrectomy Using a Kidney Grasper
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Introduction and Objectives: Partial nephrectomy has recently been promoted as a surgical approach conserving the renal function in small renal mass. In order to preserve the renal function, it is important to shorten the warm ischemic time (WIT); up to the present, various studies have been conducted to examine this issue. This paper reports some cases of laparoscopic partial nephrectomy using a kidney grasper, with which blood flow was successfully interrupted in a limited segment of the kidney.
Materials and Methods: Four patients, 2 males and females, with renal cell carcinoma with a mean tumor diameter of 13 mm were studied. The transperitoneal approach method was adopted in all cases. Following the usual procedures of laparoscopic partial nephrectomy, the position of the renal hilus was confirmed to smoothly clamp it with forceps, and tumor excision and a subsequent suture were performed, using the kidney grasper (Simon Renal Pole Clamp

by AESUCULAP®) under partial warm ischemia.
Results: All surgical procedures were completed by this method in all cases, except for 1, in which the renal artery was clamped using bulldog forceps due to difficulty in controlling blood loss during tumor excision after partial warm ischemia. The mean duration of partial warm ischemia was 23.6 minutes, and the amount of blood loss was 110 cc in the 3 cases treated with the kidney grasper.
Conclusion: It may be necessary to determine the feasibility of ischemia using the kidney grasper in consideration of the position and diameter of the tumor. It may also be necessary to sufficiently consider the optimal position of port insertion. Based on these cases, this method is likely to be a valid ischemic approach for partial nephrectomy.

UP.014
Single Endourology Centre Experience on Antegrade and Retrograde Endopyelotomy as Treatment for Primary and Secondary Ureteropelvic Obstruction (PUJO)
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Introduction and Objectives: We present our experience with endopyelotomy over the last 9 years. We evaluate and compare the results of an antegrade versus retrograde approach, using either laser or cold knife, for primary and secondary (PUJO).
Materials and Methods: A total of 55 patients underwent antegrade or retrograde endopyelotomy as either primary or salvage procedure for PUJO with the use of cold knife and/or laser were used. We retrospectively analysed the pre- and post- operative symptoms and renal function as evaluated by MAG-3 renogram. Success was defined as radiological with concomitant symptomatic improvement. Level of statistical significance was considered at $p<0.05$.
Results: Of 55 patients (mean age 47 yrs), 32 underwent antegrade (Group A) and 23 retrograde (Group B) endopyelotomy. There were 22 patients from group A that were treated by using cold knife and the rest of the patients from group A and B with laser. Mean follow up was 24.5 months. The overall success rate for the antegrade approach was 78.1% and for the retrograde group 78.2%. Primary endopyelotomy was performed in 67% and salvage procedures 33% of the patients respectively. The success rates were 84.6% and 61.1% respectively. Success rates for antegrade and retrograde primary procedures were 90% and 80% respectively. There was no statistically significant difference between success rates for antegrade and retrograde laser endopyelotomy in primary (PUJO). For salvage procedures, antegrade approach presented a success rate of 70%, whereas 50% of the retrograde procedures were successful in this group. There was not a statistically significant difference between success rates for the antegrade approach (using laser or cold knife) and retrograde approach (laser) in the salvage subgroup. However, there was a statistical significance at the 0.05 level between antegrade endopyelotomy with cold knife vs laser fibre in the salvage subgroup.
Conclusion: Our results for primary and salvage endopyelotomy (antegrade or retrograde) compare favourably with the literature. There was no statistically significant difference in outcomes, between antegrade and retrograde endopyelotomy performed as primary or salvage procedure for (PUJO). Success rate of the cold knife vs laser in the salvage antegrade endopyelotomy, was statistically significant in favour of the laser.

UP.015
Ileal Interposition of Ureters: A Series of 12 Cases – Single Centre Experience
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Introduction and Objectives: Though ureteral strictures secondary to urinary tuberculosis is a common occurrence in the Indian subcontinent, there have been instances of patients presenting with other etiologies also. For long ureteral strictures or pan ureteral strictures, we perform ileal ureter interposition. Between March 2011 and March 2012, we have performed 12 cases of ileal interposition of ureters and we present our experience.
Materials and Methods: Between March 2011 and March 2012, 12 patients underwent an ileal interposition of ureters. Nine of these patients underwent a unilateral interposition and 3 underwent a bilateral interposition. The average age was 49.4 years (oldest – 73 years and youngest – 22 years) and male to female ratio was 7 males : 5 females. The commonest etiological factor was Urinary Tuberculosis – in 9 of 12 patients (as diagnosed by histology post operatively). Two patients had strictures secondary to iatrogenic causes referred from other centres and one was post radiotherapy for malignancy. The mean period of follow-up has been 18 months. Assessment for all patients included – clinical examination, appropriate haematological investigations, Ultrasound, CT Intravenous Urography and Nuclear renogram, Ileal interposition of ureters was the primary choice of procedure in 2 patients and 9 patients had other procedures attempted first like balloon dilatation and/or ureteric stenting. Bladder function was also assessed in all patients. All patients underwent a Retrograde Pyelogram prior to the procedure to determine the precise distal extent of the strictures and then a 15 – 20 cm isoperistaltic segment of ileum was harvested and the interposition performed (refluxing anastomosis). All patients had DJ stents inserted which were removed after about a month of surgery and a check cystoscopy and Retrograde Pyelogram were performed.
Results: The average postoperative stay was between 6 and 11 days. The most common complication was recurrent Urinary Tract Infection in about 7 patients which was treated conservatively. Post operative ileus was present in about 5 patients, but recovered normal bowel function with conservative management. Delayed healing of wound was present in 2 patients and 1 patient required secondary suturing. In patients who had an elevated creatinine level, there was a fall to normal values. None had any other metabolic or electrolyte disturbances despite receiving no medications.
Conclusion: Ileal Interposition of ureters is a safe and viable surgical procedure for long segment, complex ureteral strictures and can also be a valuable surgical option when other surgical options are deemed inappropriate or impossible to perform.

UP.016
Superselective Embolization of Renal Pseudoaneurysm
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Introduction and Objectives: Superselective embolization for renal pseudoaneurysm now provides an effective and minimally invasive technique to avoid unnecessary exploration of the kidney.
Materials and Methods: A 66-year old man presented with macrohematuria. A month before he had simultaneous partial right nephrectomy and resection of

caudal pancreas. Right kidney 3D Ultrasound showed 30mm arterial pseudoaneurysm at medial-dorsal surface. General condition was normal, he had mild anaemia, felt no pain. Arterial pseudoaneurysm was confirmed and superselectively embolized during angiography. Three spiral coils were placed to subsegmental arteries. Three additional coils were placed after 4 days, because hemorrhage recurred.
Results: Macrohematuria disappeared, renal function sustains normal, patient has no complaints. CT shows good right kidney blood flow.
Conclusion: Superselective embolization of pseudoaneurysms is an effective treatment method with maximal preservation of renal function.

UP.017
Diagnosis and Treatment of Retroperitoneal Fibrosis Associated with Hydronephrosis
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Introduction and Objectives: To investigate the reason, diagnosis and treatment of hydronephrosis induced by retroperitoneal fibrosis (RPF).
Materials and Methods: The medical records of 27 patients with hydronephrosis induced by retroperitoneal fibrosis from 2004 to 2011 were reviewed.
Results: (1) Clinical manifestations: The most common initial symptom was flank, back, or abdominal pain (70.2%). (2) Adjuvant examination: Elevated erythrocyte sedimentation rate and high serum IgG4 were commom. Ultrasonography only showed hydronephrosis. Features of RPF in intravenous pyelography (IVP) and CT urography (CTU) were characteristic. As pelvis and ureter were poorly visualized by IVP, upper urinary tracts were well visualized by CTU. CT found retroperitoneal mass in 9 cases (38.5%), which was better than ultrasonography. (3) Treatment: 25 cases were performed ureterolysis; 1 case performed nephrectomy; 1 case was inserted double-J ureteric stent. Finally, 8 cases were identified secondary RPF, including digestive tract cancer (2case), endometriosis (3case) and abdominal operation history (3case). In secondary RPF, 4 cases made definite diagnosis in preoperative diagnosis, 3 cases in intraoperative diagnosis by frozen biopsy of retroperitoneal mass, and 1 case in postoperative paraffin sections pathology. (4) Prognosis: Hydronephrosis of idiopathic RPF was relieved after the surgical procedures, prognosis of secondary RPF was determined by primary disease and its treatment, endometriosis can be treated with hormonal manipulation such as a gonadotropin-releasing hormone (GnRH) agonist or danazol.
Conclusion: Imaging examinations were main approaches to diagnose RPF, CTU was superior to ultrasonography and IVP. Ureterolysis provided long-term relief of ureteral obstruction of idiopathic RPF, intraoperative frozen biopsy of retroperitoneal mass benefited to differential diagnosis between idiopathic and secondary RPF and modified therapeutic schedule.

UP.018
Normotensive Laparoscopic Zero Ischemia Partial Nephrectomy without Hilar Preparation: Initial Experience of One Single Surgeon in Low Volume Facility
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Introduction and Objectives: Shortening warm ischemia time is the biggest challenge in partial nephrectomy. The feasibility of either laparoscopic or robotic zero ischemia partial nephrectomy has been widely accepted recently. The surgeons are supposed to be quite skilled for cutting renal parenchyma under normal blood flow mainly because of the possibility of excessive blood loss. However, the benefit of zero ischemia partial nephrectomy is probably promising as long as it would be properly done. We have started Normotensive laparoscopic zero ischemia partial nephrectomy without hilar preparation on 2012. We compared these cases to our previous hilar-clumped laparoscopic partial nephrectomy cases.
Materials and Methods: This surgeon had already done 15 laparoscopic partial nephrectomies before starting zero ischemia partial nephrectomy. Of these, 3 traditional laparoscopic partial nephrectomies for T1b tumor were excluded for comparison. Approximately 5mm thick of normal parenchyma was resected with tumor. Zero ischemia partial nephrectomies have been done to 5 cases since October, 2012. Renal parenchyma was incised under normotensive status without hilar preparation in 4 cases. In these cases, perioperative parameters were analyzed.
Results: Pneumoperitoneum time was significantly shorter in Zero-ischemia group (65.2 vs 149.6 min). Amount of blood loss was also significantly less in Zero ischemia group (14.0 vs 79.4 ml). eGFR ratio (first post-operative day / before operation) was 85.7 % in Zero Ischemia group and 81.9 % in traditional partial nephrectomy group.
Conclusion: Zero ischemia partial nephrectomy is a novel procedure to remove renal mass with the true advantage to prevent renal damage. In this procedure, considering the possibility of excessive blood loss, hilar preparation for vessel clump is usually recommended. However, bleeding from tumor base is usually limited especially in T1a tumor. Our result suggested this new procedure is beneficial to shorten warm ischemia time, to shorten operation time and to reduce blood loss. Furthermore, it has been safely done even by a less-experienced surgeon. Technical limitation would be discussed with the indication of this procedure. However, normotensive laparoscopic zero ischemia partial nephrectomy could be next standard for certain cases.

UP.019
Foot Neuromodulation Increased Bladder Capacity in Healthy Human Subjects
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Introduction and Objectives: Medically refractory overactive bladder patients are provided alternative treatment options of tibial and sacral neuromodulation, or intravesical botulinum toxin injection to increase voided volumes. We propose a novel, less invasive technique in neuromodulation that involves stimulating the foot via skin surface electrodes.
Materials and Methods: Five healthy human volunteers underwent foot neuromodulation for 90 minutes via skin electrodes with an external electrical pulse generator. The electrodes were attached to the bottom of the foot. Stimulation parameters included a pulse frequency of 5Hz, a square waveform pulse width of 200 microseconds, and 2-6 times the minimal voltage needed to induce a toe twitch. A 3 day voiding diary was conducted with stimulation occurring on the second day. Volunteers were provided 500-1000mL of water to drink during stimulation.
Results: The average voided volume was 398 mL during the 24 hour period before

stimulation. It significantly ($P<0.05$) increased to 612 mL during the 1-5 hour period after stimulation, and then returned to 390 mL during the 5-24 hour period after stimulation. There were no adverse events. Table 1 details the average volumes collected from each patient.
Conclusion: Foot neuromodulation increased voided volumes in healthy volunteers. It is well-tolerated with no obvious adverse events. This proof-of- concept study will help pave the way for clinical trials in patients with overactive bladders.

UP.019, Table 1.

Volunteer	Voided volumes (mL) during the 24 hour period before stimulation (range)	Voided volumes (mL) during the 1-5 hour period after stimulation (range)	Voided volumes (mL) during the 5-24 hour period after stimulation (range)
1	368 (230-640)	667 (525-875)	465 (275-725)
2	436 (300-500)	755 (690-800)	388 (350-450)
3	406 (200-525)	577 (550-600)	469 (380-630)
4	456 (300-550)	533 (400-625)	365 (200-550)
5	323 (225-575)	530 (450-610)	263 (200-400)

UP.020
Intraoperative Indwelling Catheterization Is Important in Successful Trial without Catheter for Postoperative Urinary Retention after Non-Urological Surgery
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Introduction and Objectives: To investigate whether the presence or absence of intraoperative indwelling catheterization could influence the outcome of trial without catheter (TWOC) for postoperative urinary retention (POUR) after non-urological surgery.
Materials and Methods: After excluding patients with neurological disease, previous urological surgery, and urological disease such as urethral stricture and BPH, and in-and-out catheterization for POUR, a total of 312 patients with post-void residual urine volume (PVR) of ≥500 ml measured by indwelling catheterization were included in this study. All eligible patients underwent indwelling catheterization as an initial treatment for POUR and then TWOC was performed 3 to 7 days later. POUR was defined as micturition difficulty with PVR of ≥500ml after non-urological surgery. Successful TWOC was defined as voiding with PVR <100ml. All eligible patients were categorized into two groups: group 1 (208 patients in whom intraoperative indwelling catheterization was performed during non-urological surgery) and group 2 (104 patients in whom intraoperative indwelling catheterization was not performed). A retrospective review was performed to evaluate patient demographics and clinical, surgical and anesthetic factors. Predictive factors of successful TWOC were identified by multivariate regression analysis.
Results: Mean age of the patients in the groups 1 and 2 was 65.1±13.1 years and 65.2±16.1 years, respectively. There were significant differences in the average amount of intravenous fluid administrated during the surgery and mean duration of surgery between the two (1429.7 vs. 838.5ml and 154.9 vs. 91.5min). There were no differences in the other baseline parameters between the two. Mean duration of indwelling catheterization for POUR was 5.0 days and 256 (82.1%) patients received medication with an alpha-blocker. A successful TWOC in the groups 1 and 2 was observed in 192 (92.3%) and 68 (65.4%) patients. On univariate logistic analysis, younger age, female gender, non-spinal surgery, supine position during surgery and the presence of intraoperative indwelling catheterization were significantly associated with successful TWOC. On multivariate analysis, the presence of intraoperative indwelling catheterization was the only independent predictor of successful TWOC for POUR.
Conclusion: Our study indicates that indwelling catheterization during surgery can be needed to avoid excessive bladder distention and persistent micturition difficulty.

UP.021
The Characteristics of Autonomic Activity in Men with LUTS and Sleep Apnea
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Introduction and Objectives: Heart rate variability (HRV) is a tool to measure autonomic nervous function (ANS), however there is no evidence that it is able to define sympathetic hyperactivity in men with LUTS. Also sleep is affected by autonomic nervous system activity according to several studies. We suppose that men with LUTS and sleep apnea have different ANS activity from sleep apnea patients without LUTS. Therefore we measured their HRV, divided subjects into two groups, sleep apnea with LUTS group and sleep apnea without LUTS group according to their IPSS.
Materials and Methods: A total of 60 patients who diagnosed sleep apnea by specialist were enrolled. All subjects had no disease can affect autonomic nervous system, such as diabetes, hypertension and so on. Electrocardiographic signals were obtained from each subject in sleep laboratory and calculated the HRV indices with spectral analyses. We divided subjects into two groups by IPSS over 8 and the parameters of HRV were compared by independent sample t-test using SPSS version 12.
Results: There was no difference in age between groups. The comparative results of parameters of HRV between groups (mean ± SE) are in Table 1.
Conclusion: We suggest that the imbalance of the autonomic nervous system activity may be a factor that evokes varieties of symptoms in men with LUTS.

UP.021, Table 1. The Results of Each HRV Parameters in Group A, B and Control (mean±SE)

	AHI	RDI	ODI	IIEF	VLF (msec2)	LF (msec2)	*HF (msec2)	LF/HF
Group A (N=32)	27.9±4.8	33.5 ±4.5	26.2 ±4.6	52.6 ±3.3	10767.6±2408.9	8760.0 ±1835.2	2911.3 ±334.5	2.92 ±0.37
Group B (N=28)	20.6±3.6	31.9 ±4.6	18.5 ±3.5	44.8 ±3.4	11830.6±1519.5	11103.3±1941.0	4148.3 ±504.2	3.80 ±0.71

(Group A: patients with sleep apnea and IPSS below or same as 7, Group B: patients with sleep apnea and IPSS over 8, *; $p<0.05$, compared with control group, AHI: hypopnea index, RDI: respiratory distress index, ODI: oxygen desaturation index) As most investigators believe that LF and HF represent sympathetic and parasympathetic nervous system activity, respectively, our results may suggest that sleep apnea patients with LUTS has relatively parasympathetic hyperactivity in respect to sleep apnea patients who have no voiding symptoms.

UP.022

Easy Peezy: A Patient Satisfaction Survey on an Innovative Device for Collection of Mid-Stream Urine (MSU) Samples

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Introduction and Objectives: Collection of a valid mid-stream urine (MSU) sample is pivotal in the initial assessment of lower urinary tract symptoms (LUTS). Contamination resulted from inappropriate handling and spillage from conventional methods poses risks of unreliable results, delay in diagnosis of an infection or bacteriuria, thus preventing appropriate treatments, and incurring unnecessary expenses in repeated sample assessment. We present a patient satisfaction survey of 74 patients who used the new Peezy MSU device.

Materials and Methods: A total of 74 (53 males, 21 females) consecutive patients who attended a urology clinic were given the new Peezy device for standard collection of a MSU sample. Written instructions of use were given, collection was accomplished by patients subsequently without further aid and a questionnaire was given for completion prior to leaving the clinic. Examination of the exterior surface of the specimen bottle was recorded. Microscopy and microbiological culture reports were obtained subsequently.

Results: There were 53% of all patients (male 26.5%, female 90.5%) reported problems mainly in spillage with existing method of MSU collection. Also, 64% of patients (M72%, F43%) were not aware of the importance of a MSU sample as initial assessment of their LUTS. When given the Peezy device for MSU collection, 96% of patients (M94%, F100%) found the instruction clear, 21% (M24.5%, F14%) experience problems with the new device. Spillage occurred in 5.5% of the subjects (M4%, F9.5%). Although the device was new to 99% of the patients (M98%, F100%), 89% of them (M85%, F100%) would prefer to use Peezy in future instead of the previous existing methods. MSU bacteriology suggested possible contamination in only 7 specimens (7%) as opposed to the 22.9% of reported incidence in the local laboratory.

Conclusion: The patient satisfaction survey indicates that the Peezy is a welcome innovation by patients. Spillage is minimized, and hence toilet hygiene is maintained for general infection prevention. The improvement in possible unreliable results was impressive suggesting a significant financial saving due to the common nature of the investigation in LUTS assessment.

UP.023

Clinical Characteristics of Female Bladder Outlet Obstruction

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Introduction and Objectives: Acute urinary retention (AUR) in women is an uncommon condition, except women with neuropathic voiding dysfunction. Moreover, Bladder outlet obstruction (BOO) in women with AUR is extremely rare. The aim of this study was to report the characteristics of BOO in women with AUR. We analyzed retrospectively the result of clinical characteristics and urodynamic studies of the female patients with urinary retention for 10 years.

Materials and Methods: There were 631 women who underwent urodynamic studies for evaluation of voiding difficulty with residual urine, were retrospectively reviewed. Urodynamic findings were revealed with two groups: group I, bladder outlet obstruction (BOO); group II, neuropathic detrusor underactivity. The patients were classified as BOO based on two criteria, including one pressure flow cut off point criteria (free Qmax < 12ml/ sec and pdetQmax > 50cmH2O). Moreover, BOO in women with AUR is evaluated by additional imaging studies to help make the appropriate diagnosis. Imaging studies helped to know causes of urethral mechanical obstruction or compression.

Results: Among of 631, 89 patients (14%) had urinary retention. All of mechanical BOO patients visited hospital caused by acute urinary retention. In urodynamic study, group 1 was 17 patients (2.6%) and group 2 was 614 patients (97.3%) caused by neuropathic detrusor underactivity (areflexia or hyporeflexia). Causes of group 1 were trans-vaginal tape sling operative complications (52.9%, n=9), mechanical obstruction or compression of peri- or intra-urethral mass (47.1%, n=8). Masses were comprised of cervix cancer (25%, n=2), ovarian cancer (25%, n=2), large urethral diverticulum (25%, n=2) and ovarian cancer (25%, n=2).

Conclusion: In female voiding difficulty with urinary retention, AUR and obstructive pattern (BOO) of urodynamic findings suggest possibility of mechanical BOO. Although case of mechanical BOO is small in number, causes are significant. Thus, it is importance to take all the diagnosing methods (detailed history taking, urodynamic study, imaging study and so on) into consideration of female BOO with AUR.

UP.024

Prospective and Randomized Comparison of Electrical Stimulation of the Posterior Tibial Nerve Versus Oxybutynin, Versus Their Combination for Treatment of Women with Overactive Bladder Syndrome

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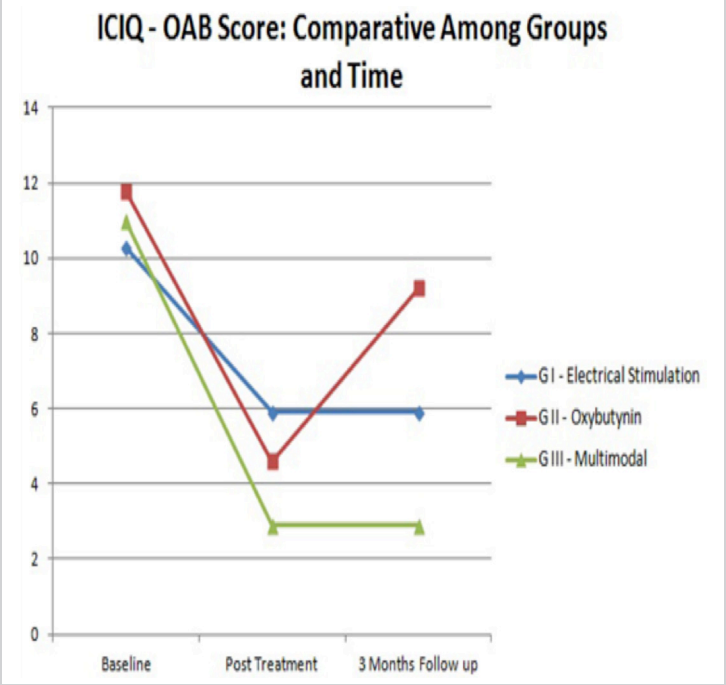
Introduction and Objectives: Overactive Bladder (OAB) has a high impact in quality of life (Qol). This study aims to verify whether the combination of electrical posterior tibial nerve stimulation (PTNS) with oxybutynin in the treatment of women with OAB would be more effective than isolated treatments.
Materials and Methods: We randomized 75 women with OAB, in three groups: G I - PTNS, G II - oxybutynin and G III - PTNS + oxybutynin (Multimodal). Patients were evaluated with validated questionnaires ICIQ-SF and ICIQ-OAB and 3-day voiding diary at the beginning, the end of treatment and in 3-month follow-up.
Results: The groups were similar before treatment. After treatment, all groups improved in Qol, and showed a decrease of the ICIQ-SF scores. The ICIQ-OAB showed a significant difference between G I with score of 5.9 and G III with score 2.9, p=0.01. After 3 months, GIII patients had the best average of Qol, compared to GI and GII, p<0.0001 and GI and GIII kept the scores of the end of treatment, while GII increased from 4.6 to 9.2, p<0.0001.
Conclusion: The multimodal treatment was more effective and presented longer lasting results for improvement of clinical symptoms of OAB and Qol.

UP.024, Graph 1.



UP.025

Association between LUTS and Sleep Disorders and Ramelteon's Effects on LUTS and Inflammation

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Introduction and Objectives: 1) The association of lower urinary tract symptoms (LUTS) and urological diseases with sleep disorders was investigated in patients who visited urology departments. 2) Of these patients, those who wished to receive treatment for sleep disorders was given ramelteon (melatonin receptor agonist), and improvement in LUTS and sleep disorders after the treatment as compared to before treatment was examined.
Materials and Methods: 1) Outpatients who visited the urology departments at the Kinki University Faculty of Medicine or the Sakai Hospital, Kinki University Faculty of Medicine, between August 2011 and January 2012, were assessed using the Athens Insomnia Scale (AIS) and the International Prostate Symptom Score (IPSS). 2) Those patients who wished to receive treatment with ramelteon were assessed using the IPSS and Insomnia Severity Index (ISI), and high sensitivity C-reactive protein (hs-CRP) was rated.
Results: 1) In total, 1174 patients (mean age, 65.7 ± 13.7 years), with 895 men (67.1 ± 13.2 years old) and 279 women (61.4 ± 14.6 years old), were included in the study. Approximately half of these patients were suspected of having a sleep disorder. The odds ratio (OR) for suspected sleep disorders was significantly higher among patients undergoing treatment for prostate cancer (OR = 1.5) and those with an overactive bladder (OR = 2.0). With regard to the IPSS subscores, a significant increase in the risk for suspected sleep disorders was observed among patients with a post-micturition symptom (the feeling of incomplete emptying) subscore of ≥1 (2.3-fold increase), a storage symptom (daytime frequency + urgency + nocturia) subscore of ≥5 (2.7-fold increase), a voiding symptom (intermittency + slow stream + hesitancy) subscore of ≥2 (2.6-fold increase), and a nocturia subscore of ≥2 (1.9-fold increase). 2) One-hundred and fifteen patients (102 men and 13 women) expressed their wish to receive ramelteon treatment. After 10 weeks of treatment, significant improvements were observed in storage symptoms (subscore decreased from 5.83 ± 3.87 to 4.72 ± 3.57, p = 0.0003), voiding symptoms (from 4.18 ± 4.35 to 3.62 ± 3.97, p = 0.0487), and nocturia (from 2.43 ± 1.29 to 2.04 ± 1.31, p = 0.0004), as well as in the quality of life (from 3.59 ± 1.52 to 3.07 ± 1.51; p = 0.0009). ISI and hs-CRP scores were also significantly changed (from 11.56 ± 5.16 to 9.17 ± 5.33, p < 0.0001; from 0.082 to 0.06, p = 0.026, respectively). A significant correlation was observed between the amount of changes in ISI and IPSS scores (p = 0.0026), as well as between the amount of changes in ISI and hs-CRP scores (p = 0.049).
Conclusion: 1) It is generally acknowledged that insomnia closely correlates with nocturia. The present study has revealed for the first time that other risk factors of sleep disorders include voiding, post-micturition, and storage symptoms. 2) The results also showed that ramelteon improved subjective symptoms and the quality of life in patients suffering insomnia accompanied by LUTS, which suggests an indirect indication that the drug has an anti-inflammatory effect.

UP.026

Correlation of Symptom Score, Prostate Volume and Uroflowmetry with Urodynamic Obstruction in Male Lower Urinary Tract Symptoms

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Introduction and Objectives: Noninvasive clinical parameters, symptom score and uroflowmetry are routinely used in determining bladder outlet obstruction. We compared data from symptom scores and uroflowmetry with urodynamic bladder outlet obstruction.

Materials and Methods: We performed retrospective analysis of men older than 45 years old with lower urinary tract symptoms who underwent pressure flow study. Urodynamic examination was performed in accordance with the International Continence Society standards. Bladder outlet obstruction was classified according to Schafer degree of obstruction and ICS nomogram. Uroflowmetry examination was performed in outpatient clinic. Patients completed the International Prostate Symptom Score questionnaire. Prostate volume was determined by transrectal ultrasound. Statistical analysis was performed by commercial statistical software, using spearman correlation and chi square tests.

Results: There were 159 male patients with LUTS included, with age ranging from 49 to 85 years old (mean 65.3 years). Patients had median IPSS of 17.5, and prostate volume of 35.1 ± 15 cc. Severity of LUTS was mild (score 0-7) in 13.2%, moderate (8-19) in 45.9%, and severe (20-35) in 40.3%. Symptom score, prostatic volume and peak urinary flow rate was correlated with Schafer degree of bladder outlet obstruction, Spearman correlation coefficient 0.416 (p=0.00), 0.339 (p=0.00), and -0.379 (p=0.00) respectively. Obstruction was found in 83.5% patients with peak flow rate of less than 10 ml/s, higher than in patients with peak flow ≥ 10 ml/s (26.4%).

Conclusion: In male patients with LUTS, symptom score, prostatic volume and peak urinary flow rate aid in diagnosis of bladder outlet obstruction.

UP.027

Comparison between the International Prostate Symptom Score (IPSS), a New Visual Prostate Symptom Score (VPSS) and Uroflowmetry Parameters in Men Who Are Illiterate or Have Limited School Education

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Introduction and Objectives: We have developed a visual prostate symptom score (VPSS) using pictograms to assess the urinary stream, frequency, nocturia and quality of life. The objective of this study was to compare the VPSS with the international prostate symptom score (IPSS) and uroflowmetry in men with limited schooling.

Materials and Methods: Men with lower urinary tract symptoms admitted to the Urology ward of Windhoek Central Hospital, Namibia, were evaluated with the IPSS, VPSS, maximum (Qmax) and average (Qave) urinary flow rates (Dantec Urodyn). Patients unable to complete the questionnaire alone were assisted by a doctor or nurse able to speak their language. Follow-up was scheduled for 3 and 6 months. The protocol was approved by the Ministry of Health of Namibia. Statistical analysis was performed using GraphPad InStat software.

Results: February 2012 through February 2013, 100 men were evaluated, 39 returned for follow-up (155 visits). Their mean age was 56.3 (range 20.1-95.4) years, 30% were illiterate, schooling was <5 years (32%), 5-9 years (34%) or >9 years (34%). Their home language was one of 12 indigenous or 2 European languages. The mean time to complete the IPSS and VPSS, respectively, was 306 (80-690) and 137 (30-556) seconds (p<0.0001). The final diagnosis was urethral stricture in 62% and BPH in 28%. The treatment was internal urethrotomy in 71%, TURP in 20% and open prostatectomy in 7%. In 57 assessments where the voided volume was >150 ml the following correlations were found:

Conclusion: The VPSS correlates significantly with the IPSS and takes significantly less time to complete. IPSS Q5 and VPSS Q1 (urinary stream) and both IPSS and VPSS QoL questions correlate significantly with the Qmax and Qave. The VPSS pictograms on the force of the urinary stream and QoL can be used to assess bladder outflow obstruction in men who are illiterate or have limited school education.

UP.027, Table 1.

Spearman's rank correlation	Coefficient (r)	p-value
IPSS total vs VPSS total	r = 0.934	p<0.0001
IPSS Q5 (weak stream) vs VPSS Q1 (force of stream)	r = -0.775	p<0.0001
IPSS QoL (quality of life) vs VPSS QoL	r = -0.902	p<0.0001
IPSS total vs Qmax	r = -0.332	p=0.012
IPSS total vs Qave	r = -0.411	p=0.002
VPSS total vs Qmax	r = -0.215	p=0.112 NS
VPSS total vs Qave	r = -0.315	p=0.019
IPSS Q5 (weak stream) vs Qmax	r = -0.398	p=0.002
IPSS QoL vs Qmax	r = -0.339	p=0.011
VPSS Q1 (force of stream) vs Qmax	r = -0.476	p=0.0002
VPSS QoL (quality of life) vs Qmax	r = -0.275	p=0.040
IPSS Q5 vs Qave	r = -0.450	p=0.0001
IPSS QoL vs Qave	r = -0.411	p=0.002
VPSS Q1 vs Qave	r = -0.564	p<0.001
VPSS QoL vs Qave	r = -0.348	p=0.009

UP.028

Mirabegron May Improve Sleep Quality in Patients with Overactive Bladder and Sleep Disturbance

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Introduction and Objectives: To examine the effect of Mirabegron for not

only overactive bladder symptoms but also sleep disturbance. Nocturia and urgency are independent factors for sleep disturbance.
Materials and Methods: Forty patients with overactive bladder symptoms and sleep disturbance were enrolled in this study. The overactive bladder symptoms score (OABSS), Athens insomnia scale (AIS) KHQ, N-QOL and Bother Index VAS were used as a subjective questionnaire for overactive bladder symptoms and insomnia. We evaluated the changes of each parameter before and 2 to 4 to 12 weeks after the administration of Mirabegron 50mg/day. Statistical comparisons before and after the administration were made using the Wilcoxon signed-rank test. To examine the relation between OABSS and AIS, Spearman's testing was used for correlations between independent variables and P<.05 was considered statistically significant.
Results: Total OABSS and total IPSS were significantly improved and obtained an early effect after administration of Mirabegron (OABSS:8.3±2.9→6.0±2.7→5.7±2.7, IPSS17.5±7.1→13.0±6.6→11.7±6.1). A total of 78% patients were under sleep disturbance before treatment in AIS. The categories of urgency and nocturia in OABSS and the categories of awakening during the night and sleep quality in AIS were also significantly improved. The AIS showed that total sleep time and Functioning (physical and mental) during the day were significantly improved. Bother Index showed high treatment satisfaction and good drug noncompliance without side effect, constipation, and dry mouth.
Conclusion: The treatment of urgency by Mirabegron may improve not only overactive bladder symptoms but also sleep disturbance.

UP.029
Evaluation of the Efficacy of a Prototype Intravesical Pressure Sensor for the Measurement of Real-time Intravesical Pressure Changes
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Introduction and Objectives: Maintaining physiologic intravesical pressure is important to prevent secondary renal functional impairment in patients with voiding problems like neurogenic bladder or severe bladder outlet obstruction (BOO). Therefore, if the real-time monitoring of the intravesical pressure is possible, physicians can not only monitor the voiding status more precisely but also manage the patients with voiding problem appropriately to protect renal function. In this study, we evaluate the efficacy of the prototype intravesical pressure sensor in the rabbit.
Materials and Methods: The manufactured prototype intravesical pressure sensor was placed into the intravesical space of each of 3 rabbits. Conventional cystometry was performed and the intravesical pressure was measured by prototype intravesical pressure sensor at the same time in all animals. The measured intravesical pressure by prototype intravesical pressure sensor was compared with the measured value by conventional cystometry. The reliability between the two methods was determined using cross-table analysis.
Results: In all animals, the index of coincidence was observed as 0.70, 0.79, and 0.77, respectively. This result meant that the intravesical pressure measured by prototype intravesical pressure sensor showed good reproducibility compared with the intravesical pressure measured by conventional cystometry.
Conclusion: In this study, we demonstrated the reliability of the prototype intravesical pressure sensor to monitor intravesical pressure change compared with the conventional cystometric result. Further investigation to overcome the limitation of the prototype intravesical pressure sensor is necessary for the application to the real life practice.

UP.030
Development of a Non-Invasive Indicator of Peak Urine Flow Rate from the Shape of the Urine Stream
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Introduction and Objectives: The development of a computational model to characterize the shape of urine issuing from the male external urethral meatus, and its use as a non-invasive tool of monitoring urine flow rate in men with benign prostatic hyperplasia and assessing the need for treatment.
Materials and Methods: A theoretical model of capillary waves in liquid jets was developed by studying the unsteady development of a 2-dimensional droplet deforming under the action of surface tension associated with exiting through an elliptical orifice. The simulated results were verified with experimental modeling of the urine stream. A total of 60 healthy male volunteers and 60 male patients referred to the urologist due to low flow rate and suspected bladder outflow obstruction were assessed for their characteristic urine stream shape and their flow rate by use of a clinical gravimetric urine flow meter.
Results: All individuals reported a urine flow with a characteristic 'spiral' pattern with an initial wavelength (L). The computational model accurately described the shape of the flow stream confirming the underpinning biophysics. A statistically significant correlation ($p<0.05$) was identified between peak flow rate (Qmax) and maximum wavelength (Lmax) in the experimental and computational models as well as in the healthy volunteer group. However, there was no correlation in the patient group, due to reduced urethral dilation at lower flow rates compared to healthy volunteers. This was quantified by a significant difference in Lmax/Qmax which is proportional to the urethral dilation ($p<0.001$).
Conclusion: An individual's peak flow rate can be estimated from self measurement of maximum wavelength. This technique provides a simple, non-invasive and cheap method for monitoring peak flow rate as part of the recommended practice of watchful waiting for patients with benign prostatic hyperplasia. The accuracy can be improved to +/-2%, by precalibrating the relationship between Qmax and Lmax which depends on an individual's urethral dilation. The technique can also identify those with poor urethral dilation who may require surgical intervention.

UP.031
An In Vitro Model to Evaluate Encrustation of Allium Ureteric Stents
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Introduction and Objectives: To measure and compare the percentage of surface and luminal thickness of encrustation in Allium and conventional double J ureteric stents after exposure for 6 weeks

to an accelerated encrustation model.
Materials and Methods: An artificial urine solution was prepared and three stents were immersed into each of six containers allocated to each stent type, representing each week of encrustation. Slight agitation was accomplished by placing a magnetic stirrer at the bottom of each container. Images were obtained by examination under a stereomicroscope and analyzed with the aid of specialized image analysis software (Image J).
Results: By week 2 nearly 100% of the stent surface was covered by a thin layer of encrustation, gradually increasing in thickness through weeks 3 to 6. On completion of 6 weeks of encrustation, the 10mm length double J stent specimens were not showing visible encrustation, while the 60mm long Allium stents showed 100% surface coverage. This was most evident in the mid-section of the stents compared to the ends, suggesting a correlation between stent length and encrustation formation. There was also no blockage of the lumen of either stents between weeks 1 to 6.
Conclusion: The designed accelerated encrustation model was successful and showed 80% surface coverage after 6 weeks. In our study, there appears to be a slightly reduced level of surface encrustation to that of earlier reports. A correlation between stent length and geometry was suggested. This model may be used to compare encrustation for a variety of polymeric stent materials.

UP.032

ER Stress Protein, GRP78 as a Therapeutic Target Combined with Antiangiogenic Therapy in Renal Cell Carcinoma

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Introduction and Objectives: Antiangiogenic therapy deprives oxygen and nutrition from the tumor. These stress conditions cause unfolded or misfolded proteins in tumor cells. Glucose regulated protein 78 (GRP78) binds to unfolded proteins and dissociates from the membrane-bound ER stress sensors. Dissociation of GRP78 from these stress sensors allows their subsequent activation which suppresses global mRNA translation to protect cells from excessive unfolded proteins. We investigated a potential role of GRP78 as a combined therapeutic target in renal cell carcinoma treated with antiangiogenic therapy.
Materials and Methods: Renal cell carcinoma cells (Caki-1, Caki-2, UMRC-3 and UMRC-6) were used to investigate the effect of GRP78 knockdown, which was performed by small interfering RNA. Caki-1 xenografts were developed and treated with sunitinib 40mg/kg/day to evaluate in vivo expression of GRP78 during antiangiogenic therapy. Caki-1 cells stably overexpressing GRP78 were developed to investigate the role of GRP78 in cancer cell. Hypoxic stress was induced by 1% hypoxia chamber and hypoglycaemic stress was induced by glucose-free media. Downstream signalling pathways of GRP78 were evaluated by Western blots.
Results: In vitro hypoxia and/or glucose deprivation induced GRP78 upregulation in Caki-1 cells. GRP78 was also induced in Caki-1 xenografts treated by sunitinib. Overexpression of GRP78 increased tumor proliferation in hypoxic and/or hypoglycemic stresses by activating PERK/eIF2α pathway and protected tumor cells from stress-induced apoptosis. Knockdown of GRP78 using small interference RNA inhibited cancer cell survival and induced apoptosis in renal cell carcinoma cells in vitro. GRP78 knockdown also sensitized renal cell carcinoma cells to ER stress-induced apoptosis and hypoxic and hypoplycemic stress-induces apoptosis.
Conclusion: Antiangiogenic therapy induces ER stress by depriving oxygen and glucose from renal cell carcinoma. ER protein GRP78 has a critical role in protecting renal cell carcinoma cells from hypoxic and hypoglycemic stress induced by antiangiogenic therapy. Knockdown of GRP78 sensitizes RCC cells to apoptotic cell death from anti-angiogenic stresses. Our results suggest that GRP78 is a novel therapeutic target in renal cell carcinoma management.

UP.033

Isolation of Anti PSMA Antibody and Screening for Antigens Overexpressed on Prostate Cancer Using Anti-Cancer Antibodies Obtained from Antibody Phage-Display Library

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Introduction and Objectives: Previously we reported comprehensive screening for antigens (Ags) over-expressed on various carcinomas via isolation of human monoclonal antibodies (mAbs). Prostate specific membrane antigen (PSMA) is a type 2 integral membrane glycoprotein. PSMA expression is increased in association with prostate cancer (PCa), particularly in castration-resistant PCa (CRPC). This association is ideal for application as a diagnostic and prognostic marker as well as target molecules for therapeutic and imaging agents.
Materials and Methods: The isolated phage fraction turned out to contain mAbs that bind to very heterogeneous epitopes and show strong binding activity to Ags. In order to find predictably effective targets for therapeutic Ab against PCa, expression of the Ags on the surface of cancer and normal cells was extensively examined by immunohistochemical (IHC) analysis using fresh human tissues from needle biopsies specimens.(20 malignant tissues and 20 benign tissues).
Results: We isolated anti PSMA antibody (Ab) from the phage-display Ab library which possibly deliver a large number of mAbs bound to the various kinds of human Ags. In this study, fifteen different kinds of human mAbs including PSMA were applied, four distinct Ags showed high expression on prostate tissues. Among them, ALCAM, MCP were increased in both benign and malignant tissues. PSMA and EpCAM were significantly expressed on PCa compared to benign tissues. EpCAM expression was found in 65% of cancer and in 5% of benign tissues. PSMA was found in 95% of PCa specimen but nothing in benign tissues.
Conclusion: This study detected high sensitivity of PSMA which was a valuable immunohistochemical marker for PCa. In the future, our results will be used for the application of diagnosis and therapy in clinic.

UP.034

Single Nucleotide Polymorphism (SNP) in CYP17A1 (rs743572) Gene as a Risk of Prostate Cancer Development – A Preliminary Report in Caucasian Group

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Introduction and Objectives: This study aims to sequence the established regions of CYP17A1 (rs743572) from Caucasians and to compare them with imported DNA from Malaysian Chinese group to investigate presence of ethnic-group specific single nucleotide polymorphism (SNP). This research will generate initial data for future clinical studies for development of biomarkers in

ethnic-based prostate cancer screening.
Materials and Methods: Blood sample obtained from newly diagnosed and biopsy confirmed prostate cancer patients from Caucasian men. Controls are confirmed Benign Prostatic Hyperplasia patients with normal digital rectal examination, with a PSA of < 4.0ng/ml and with no family history of prostate cancer. Genetic polymorphisms were investigated by isolation of genomic DNA from whole blood and subsequent PCR amplification and DNA sequencing. Sequencing result aligned with reference gene using software (Geneious) to identify SNPs and anomalies in the translated protein.
Results: A preliminary result for 40 prostate cancer and 25 control patients among the Caucasians showed polymorphic T to C substitution in the 5'-untranslated region of the CYP17A1 (rs743572) gene in 50% (n=20) and 36% (n=9) respectively. The mean age of participants in both groups was 66 years. The median PSA was 6.7 and 2.1 ng/ml respectively. This polymorphism was seen mainly in cancer cases with Gleason grade ≥7 (n=15) (75%).
Conclusion: The rs743572 polymorphism appears to be more common among the cancer group, however, statistical significance will only be ascertained once all the Caucasian samples has been analysed. Imported Malaysian samples will also be tested using similar protocol in order to provide further evidence in testing ethnic variation of the above polymorphism.

UP.035
Retinoic Acid Increases Aquaporin 3 Expression in Human Vaginal Epithelial Cells
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Introduction and Objectives: Water channel aquaporin 3 (AQP 3) is an aquaglyceroporin which transports both water and glycerol. All-trans retinoic acid (ATRA) and its derivatives, commonly called retinoids, are important regulators of several biological processes. The aim of this study was investigated the effect of ATRA on AQP 3 by retinoic acid in human vaginal epithelial cells.
Materials and Methods: The human vagina mucosal epithelial cells (CRL2616) were treated with 1 uM ATRA for 0, 3, 6, 12, and 24 hours, and cells were treated with 0, 0.01, 0.1, 1, and 10 uM ATRA for 24 hours to examine the dose-dependent effects of ATRA. Expressions of AQP 3 and retinoic acid receptor were determined by Western blot and RT-PCR.
Results: ATRA increased the AQP 3 protein expression at a dose-dependent manner ($p<0.05$). Similar to AQP3 protein, the increases in AQP 3 mRNA levels were observed at 24 hours ($p<0.05$), and ATRA also increased the retinoid X receptor-alpha (RXRα) mRNA and protein expression.
Conclusion: The results showed that ATRA increased both AQP 3 gene and protein expressions in human vaginal mucosal epithelial cells, and the effect of ATRA was mediated by RXRα. These results imply that ATRA may play an important role in vaginal lubrication

UP.036
Detection of S-Nitrosylated Protein by the Biotin-switch Technique in Renal Cell Cancer
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Introduction and Objectives: Nitric oxide (NO) is a versatile signaling molecule. Its roles in a variety of physiological functions in mammals are beginning to be understood. It has been demonstrated that NO up-regulates the expression of the Fas receptor on human tumor cells via specific inactivation of transcription repressor YY1 DNA binding activity to the silencer region of the Fas promoter (Hermes G., et al. 2001). We also showed that inactivation of YY1 via protein S-nitrosylated by NO in prostatic cancer could be identified (Hongo F., et al. 2005). This post-translational modification, known as S-nitrosylation, has emerged as a highly conserved and spatiotemporally specific signaling mechanism. The objective of our study was to examine the effect of NO donor treatment on renal cell cancer.
Materials and Methods: We examined the effect of the NO donor DETA-NONOate (100-500uM) on the following renal cell cancer cell lines; CAKI-1, NC65, and ACHN. Anti-S-nitroso-Cysteine antibody in the rabbit (SIGMA-ALDRICH) was applied as a primary antibody for immunohistochemistry. The biotin-switch technique was applied to detect specific S-nitrosylated proteins. Whole cell lysates were extracted from ACHN cells employed with DETA-NONOate. Using an S-nitrosylated detection kit (Cayman Chemical Company), S-NO was replaced by Biotin. Cell lysates were incubated at 4°C with 30 μL of Dynabeads M-280 Streptavidin (Invitrogen) for 3 hrs. After five washes with wash buffer (S-Nitrosylation Wash buffer), the protein complex was eluted from anti-biotin dynabeads by incubation with 1x volume of elution buffer (0.1M glycine (pH2.0)) twice for 15 min. Each sample was added to an SDS–polyacrylamide gel for mass spectrometry.
Results: Significant up-regulation of S-nitrosylated proteins employed with DETA-NONOate was observed by immunohistochemistry. Specific S-nitrosylated proteins in ACHN cells were detected by the biotin-switch technique and included HSP90 (heat shock protein 90), GRP78 (HSP70 family), HSP70, and pyruvate kinase M2.
Conclusion: Our data showed that NO treatment significantly increased S-nitrosylation of several proteins. S-nitrosylation should be considered as one of the mechanisms by which NO acts on cancer cells.

UP.037
Exploration of Anticancer Mechanism of 2-Deoxyglucose in Cultured Bladder Cancer Cells
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Introduction and Objectives: More than 90% of bladder cancers in the United States are transitional cell carcinoma (TCC). Approximately 70% of TCC presents as superficial bladder tumor and are treated by transurethral resection. However, 50%-75% of those patients will recur within 5 years and approximately 10% will progress to muscle invasive disease. The primary goal in the treatment of superficial disease is therefore to prevent disease recurrence and progression. The glucose analog 2-deoxyglucose (2DG) has been studied as a potential anticancer agent that could target the metabolic pathway; however its anticancer mechanism has not yet been completely elucidated. Accordingly, we explored the anticancer effect and mechanism of 2DG in bladder cancer cells in vitro.
Materials and Methods: Human bladder cancer 5637 cells were cultured with varying concentrations of 2DG (0-5 mM) and cell viability was assessed by MTT assay. To explore the anticancer mechanism of 2DG, several critical cellular events, such as glycolysis, specific signaling pathways, oxidative stress, and apoptosis, were further investigated.
Results: 2DG treatment for 72-h resulted

in a 57-83% reduction in cell viability in a dose-dependent manner. Activity of glyceraldehyde 3-phosphate dehydrogenase (G3PDH), one of the key glycolytic enzymes, declined to ~55% and the lactate level was also decreased to ~35% with 24-h 2DG (1 mM) treatment, indicating an inhibition of glycolysis. Concurrently, two signaling pathways, via AMP-activated protein kinase (AMPK) and protein kinase B (Akt), were modulated by 2DG, presumably accounting for the cell viability reduction. Malondialdehyde (MDA) assay showed that 2DG exposure elevated the cellular MDA levels to ~2.3-fold greater than that in controls, implying severe oxidative stress exerted on cells. Western blots further revealed that 2DG treatment led to activation of both caspase-3 and poly-(ADP-ribose)-polymerase, indicating induction of apoptosis.
Conclusion: This study demonstrates that 2DG has anticancer activity on bladder cancer 5637 cells and its anticancer mechanism involves diverse cellular effects, such as glycolysis inhibition, modulation of AMPK and Akt signaling pathways, exertion of oxidative stress, and induction of apoptosis. Therefore, 2DG appears to be an effective anticancer agent that may provide an alternative therapeutic modality for superficial bladder cancer.

UP.038
Nitric Oxide as Prognostic Parameter in Patients with Transitional Bladder Cancer
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Introduction and Objectives: It has been shown that NO synthetic pathway could have a key role in the progression of transitional bladder cancer. Recently, inducible nitric oxide synthase (iNOS) expression was detected in urinary bladder cancers, because iNOS produces a high concentration of nitric oxide (NO). The aim of this study was to determine urine NO levels in transitional bladder cancer compared with a healthy control group of patients.
Materials and Methods: We analysed the production of NO in 20 patients with transitional bladder cancer, as well as in 20 healthy subjects. The diagnosis of transitional bladder cancer was made on the basis of clinical examination and pathohistological reports after TUR at the Urology Clinic, University of Sarajevo Clinical Center. NO levels in samples were determined by evaluation of its stable degradation products, nitrate and nitrite. NO concentration in serum was determined by classic colorimetric Griess reaction. Conversion of nitrate into nitrite was done with elementary zinc.
Results: The results show that serum concentration of NO in patients with transitional bladder cancer (19.2±2.1) was significantly higher than in healthy subjects (9.6±0.4; $p<0.001$).
Conclusion: Our results have shown that the elevated NO levels could perhaps be considered as a putative marker at the patients with transitional bladder cancer.

UP.039
Glutathione S-transferase M1 and T1 Polymorphisms: Susceptibility and Outcomes in Muscle Invasive Bladder Cancer
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Introduction and Objectives: We investigated whether genetic polymorphisms in the glutathione S transferase mu (GSTM1) and theta (GSTT1) genes modulated risk, disease progression, and survival in primary muscle invasive bladder cancer (MIBC).
Materials and Methods: GSTM1 and GSTT1 polymorphisms were analyzed by multiplex polymerase chain reaction (PCR) using blood genomic DNA in 110 MIBC patients and 220 healthy controls. The influence of the genetic polymorphisms on patient survival was evaluated by Kaplan- Meier survival curves and Cox Proportional Hazard models. We also evaluated whether cigarette smoking, cystectomy, and chemotherapy modified the association between genotype and prognosis.
Results: GSTM1-null individuals exhibited increased risk for MIBC and an association with cigarette smoking. GSTT1-null subjects showed significant disease progression and cancer-specific death. In the combined analysis, GSTT1 null genotypes was independent risk factors for disease progression and cancer specific death regardless of GSTM1 genotype (odds ratio (OR) = 9.92, OR = 8.62, respectively). Significant differences in progression-free survival (PFS) and cancer-specific survival (CSS) were seen based on GSTT1 genotype. The survival impact of the GSTT1 genotype was only valid for smokers. The GSTT1-null genotype was an independent prognostic factor for shorter PFS in patients who received chemotherapy and those who did not undergo cystectomy. By multivariate Cox regression analysis, GSTT1 null genotype was a predictive factor for disease progression and cancer specific survival (hazard ratio (HR) = 3.110, HR = 3.029, respectively).
Conclusion: The GSTM1-null genotype plays an important role in genetic susceptibility to MIBC, and GSTT1-null genotype is associated with disease progression and shorter survival.

UP.040
Predicting the Result of Cystoscopies in a Natural Clinical Population - Active Surveillance and Follow Up New Model
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Introduction and Objectives: The aim of our study was to explore the possibility of building such a predictive model of bladder cancer, in a natural unselected clinical population.
Materials and Methods: We recruited consecutive patients in an observational prospective study that underwent cystoscopy, due to either suspicion of bladder cancer or surveillance of a previously diagnosed bladder cancer. Urine cytology and a BTA-stat® test were carried out for all patients. To avoid an assessment bias, BTA-stat test, the cytology and cystoscopy evaluators conducted their assessment in a blinded fashion. We used a backwards elimination modelling strategy to retain significant predictors ($p<0.05$ in Wald tests), and we validated our final model using bootstraps (1000 replicates). For the validated model, we provide Odds Ratios corresponding 95% confidence intervals (95%CI), and a nomogram to facilitate the utilization of the model into clinical setting.
Results: From August 2011 to July 2012,

we recruited 244 patients. Seven cases were excluded due to lack of critical data (n=237). Newly diagnosed and surveillance cases were 13% and 87% respectively. Cytology and BTA-test sensitivities were 57.9% (CI95: 42.2 – 72.1) and 63.2% (CI95: 47.3 – 76.6) with specificities of 84.4% (CI95: 78.7 – 88.8) and 82.9% (CI95: 77.1 – 87.5). Comparison between both tests were non-significant (sensitivity p=0.751 / specificities p=0.770). The negative predictive value (NPV) was 91.3% (86.3 – 94.6) for cystoscopy and 92.2% (87.3 – 95.0) for the BTA test. Multivariate Logistic Regression model with the BTA-test, citology, risk and mitomicin/BGC tretament had an AUC-ROC of 0.85 (0.78 – 0.92) but dropped to 0.79 when excluding the BTA-test (p=.0.026).
Conclusion: In a cost containment environement, our prediction model could be considered to space out cistoscopies in patients with previous, low risk tumours. A limitation is the lack of a model validation exercise using external data. To compensate this limitation, we performed a bootstrap validation with 1000 replicates. Conversely, we believe that strength of our study is that it was conducted on a natural, unselected clinical population, which allows estimation of predictive values.

UP.041
Urinary Levels of Hepatocarcinoma-intestine-pancreas/Pancreatitis-associated Protein as a Diagnostic Biomarker in Patients with Bladder Cancer
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Introduction and Objectives: To assess the possibility of hepatocarcinoma-intestine-pancreas/pancreatitis-associated protein (HIP/PAP) as a biological marker for detecting Bladder cancer (BCa), we examined the expression of HIP/PAP in both BCa specimens and BCa cell lines and measured HIP/PAP levels in urine from patients with BCa.
Materials and Methods: HIP/PAP expression in BCa samples was evaluated by western blot analysis, and urinary levels of HIP/PAP in patients with BCa were measured by enzyme-linked immunosorbent assay. Urine samples were collected from 10 healthy volunteers and 109 with benign urological disorders as controls, and from 101 patients who were diagnosed with BCa.
Results: HIP/PAP was highly expressed in BCa samples as compared with control bladder. Urinary HIP/PAP concentrations were significantly higher in BCa patients than in controls (median value; 3.184 pg/mL vs. 55.200 pg/mL, P <0.0001, by Mann-Whitney U test). Urinary HIP/PAP levels in BCa patients correlated positively with pathological T stages and progression-risk groups among non-muscle invasive BCa (P=0.0008, by Kruskal-Wallis test). Regarding the recurrence-risk classifications of non-muscle invasive BCa, the urinary levels of HIP/PAP were significantly higher in the intermediate than in the low risk group (P=0.0002, by Mann-Whitney U test). Based on a cut-off of 8.5 pg/mL, the ability of urinary HIP/PAP levels to detect UC had a sensitivity of 80.2%, specificity of 78.2%, positive predictive value (PPV) of 75.7%, and negative predictive value (NPV) of 82.3%.
Conclusion: HIP/PAP was abundantly expressed in BCa, and the urinary levels of HIP/PAP could be a novel and potent biomarker for detection of BCa, and also for predicting the risks of recurrence- and progression-risk of non-muscle invasive BCa. A large scale study will be needed to establish the usefulness of this biomarker.

UP.042
Hydronephrosis Significance as a Prognostic Factor in Patients with Invasive Bladder Cancer
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Introduction and Objectives: We have evaluated significance of hydronephrosis as a prognostic factor in patients with invasive bladder cancer.
Materials and Methods: A series of 118 patients underwent radical cystectomy during the period of 2003 to 2009 at the Urology Clinic of Sarajevo University Clinical Hospital. A total of 113 patients suffered from invasive carcinoma of the bladder, 5 from high-risk, superficial cancer. Forty nine patients did not have hydronephrosis, 69 had hydronephrosis, and 44 of them had unilateral and 25 bilateral hydronephrosis. Patients were evaluated preoperatively and patient's clinical stage was determined. Final diagnosis was postoperatively established on the basis of histopathological TNM classification, which was compared with the clinical stage of disease and significance of hydronephrosis in determining the advance stage of bladder cancer was estimated. Factors associated with preoperative hydronephrosis were evaluated by x2 test. Overall survival rate was calculated by the Kaplan-Meier method. Cox's regression analysis and Pearson test of correlationes were also used.
Results: The incidence of hydronephrosis in the overall sample was 58.5%. Preoperative hydronephrosis finding is associated with higher postoperative pT, positive lymph nodes, positive finding lymphovascular invasion, frequent histopathological diagnosis of infiltrating ureter, finding perivesical extensions of the tumor. Hydronephrosis as a factor in the clinical assessment of disease stage can predict tumor spread, it has absolute specificity (no false negative signs of tumor invasion), and in up to 61,2% cases it may exclude a possible expansion of the tumor outside the bladder and in relation to a definitive histopathological stage, it has sensitivity of 72.4%, specificity of 53.1%, PPV (positivne predictive value) of 68.5% and NPV (negative predictive value) of 57.7%, which means that it can be a good indicator for further examination of possible perivesical expansion. Preoperative hydronephrosis findings are in relation to the progression of the disease and it is associated with poorer overall survival rate but not in relation to the length of survival.
Conclusion: Hydronephrosis in patients with invasive bladder cancer is an important prognostic factor and has significance in assessing the clinical stage of the disease.

UP.043
The Diagnostic Value of Urinary Cytology in Non-muscle Invasive Bladder Cancer
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Introduction and Objectives: It has been reported that urine cytology has high specificity but low sensitivity in non-invasive test for the diagnosis of bladder cancer. In this study, we evaluated the clinical efficacy of urine cytology at initial diagnoses, which pathologically diagnosed non-muscle invasive bladder cancer (NMIBC) after transurethral resection of bladder tumor (TURBT).
Materials and Methods: This was a

retrospective analysis of 406 patients diagnosed with pTa or pT1 bladder tumors after TURBT between September 1999 and May 2010. We divided the patients into two groups according to result of urine cytology (Group A; class I, II, III and Group B; class IV, V). The two groups were compared according to the patient's age, sex, underlying disease, tumor stage (pTa, pT1), grade, multiplicity and tumor size.
Results: Of the 406 NMIBC patients, 274 were pTa and 132 were pT1 in tumor stage. Before TURBT, urine cytology results were class I; 197, II; 83, III; 54, IV; 13 and V; 59. We divided two groups by urine cytology result; 1) low risk group (I, II and III; 334), 2) high risk group (IV, V; 72). Between two groups, tumor stage (Ta, T1), grade and multiplicity had significantly differences at univariate analysis, but no significantly differences multivariate analysis. However tumor size had significantly differences in univariate and multivariate analysis (p=0.014, Odd ratio 1.59).
Conclusion: In our study, positive on urine cytology was confirmed in only 17.7% of patients in NMIBC and the larger size of tumor has the more positive incidence in urine cytology. Urine cytology alone is thought to be limited to the diagnosis of NMIBC. For the initial diagnosis of bladder cancer, cystoscopy was needed with urine cytology.

UP.043, Table 1. The demographic and clinical variables of the patients

Variable	Patients (n=392)	%
Age (Mean ± SD)	64.4±11.4	
Sex		
Male	339	83.5
Female	67	16.5
Tumor size		
≥3cm	192	47.3
<3cm	214	52.7
No. Tumors		
1-3	103	25.4
≥4	303	74.6
Pathological stage		
Ta	274	67.5
T1	132	32.5
WHO grade		
Low	165	40.6
High	241	59.4
Urine cytology		
Low (I, I, II)	334	82.3
High (IV, V)	72	17.7

SD: standard deviation

UP.044
Using Gemcitabine-Docetaxel-Carboplatin as Second-Line Chemotherapy in Patients with Advanced Urothelial Carcinoma for Whom Gemcitabine-Cisplatin Chemotherapy has Failed
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Introduction and Objectives: Recently, gemcitabine-cisplatin (GC) chemotherapy has become a standard treatment for patients with advanced urothelial carcinoma (UC). However, there is no standard follow-up treatment for cases where GC is unsuccessful. This study evaluated the efficacy and toxicity of gemcitabine-docetaxel-carboplatin (GDC) as a second-line chemotherapy.
Materials and Methods: There were 26 patients with advanced UC, for whom GC had failed, treated. 750 mg/m^2 of gemcitabine (days 1 & 8), 50 mg/m^2 of docetaxel (day 1), and carboplatin (AUC 5) (day 1) were administered in 21-day cycles. The average number of cycles was 3 (range 1-6). Treatment was ceased when evidence of relapse was found or when the side-effects became extreme.
Results: A total of 26 patients (23 men and 3 women, with a median age of 69.5 years) were enrolled in the study. The median follow-up duration was 8.0 months (range 1.9-18.5). The results were that 8 of the patients (30.8%) showed a partial response to the treatment, but none showed a complete response. Median progression-free and overall survival periods were 6.7 and 12.9 months, respectively. The 1-year progression-free and overall survival rates were 39.8% and 53.5%, respectively. Grade 3 or 4 toxicity was observed in 18 patients (69.2%), including neutropenia (34.6%), anemia (26.9%) and thrombocytopenia (61.5%).
Conclusion: GDC chemotherapy was found to be effective even in some patients with GC-resistant UC, and the toxicity was manageable. The authors therefore conclude that GDC chemotherapy could be an optional treatment for patients with advanced UC in cases where GC chemotherapy has failed.

UP.045
Long-Term Outcomes of Tri-Modality Therapy with Radical Transurethral Resection of the Bladder Tumor (TUR-Bt), Intra-Arterial Chemotherapy, and Concurrent Radiotherapy for Locally Advanced Bladder Cancer
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Introduction and Objectives: We evaluated the long-term outcomes of intra-arterial chemotherapy and concurrent radiotherapy after radical TUR-Bt for the treatment of muscle-invasive bladder cancer.
Materials and Methods: Thirty patients with T2-T4N0M0 muscle-invasive bladder cancer were staged as follows: 14 in T2, 14 in T3, and 2 in T4. The grade distribution was as follows: 0 in grade 1, 4 in grade 2, and 26 in grade 3 tumors. Patients were treated with 2 courses of intra-arterial cisplatin and doxorubicin at 4-week intervals, whereas concurrent radiotherapy was administered for 4 weeks to 40 Gy after radical TUR-Bt. Bladder tumors were resected including muscle layer. All patients were taken second radical TUR-Bt after 2 courses of intra-arterial chemotherapy and radiotherapy in order to define the response rate. Patients with complete responses were not given additional treatment, and patients with residual tumor after the second radical TUR-Bt underwent cystectomy or additional chemotherapy. All patients were followed up at least 72 months.
Results: Mean follow-up was 82.6 months. Of 30 patients, complete response was observed in 24 patients (80.0%). A total of 19 patients (63.3%) had a continuously tumor free bladder at 3 years, and 17 patients (56.7%) at 5 years after treatments. Bladder preserving rate was 96.6% at one year after primary treatment. The overall survival rate was 83.3% at 3 years and 75.9% at 5 years. The cancer specific survival rate was 88.4% at 5 years. Five patients (16.7%) had local recurrence and 6 (20.0%) patients had distant metastasis during the follow-up. Sever adverse events (greater than grade 3) were observed as 1 anemia, 2 leukopenia, and 3 urinary retention.
Conclusion: Tri-modality therapy with radical TUR-Bt, intra-arterial chemotherapy, and concurrent radiotherapy was well tolerated with low risk of severe systemic or local toxicities. The high rates of complete response, bladder preservation,

and overall survival may indicate that this combined intra-arterial chemotherapy and radiotherapy after radical TUR-Bt would be useful in the management of muscle- invasive bladder cancer.

UP.046

Photodynamic Diagnosis-guided TUR-BT is an Independent Predictor for Improved Recurrence-free Survival after Radical Cystectomy for Invasive Bladder Cancer

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Introduction and Objectives: Randomized studies have shown that photodynamic diagnosis (PDD)-guided cystoscopy improves the detection of bladder tumours and reduces the risk of recurrence. The aim of this study was to assess whether performance of PDD-guided transurethral resection of bladder tumors (TUR-BT) reduces also the risk of local and distant recurrence in patients who underwent radical cystectomy (RC) for muscle-invasive bladder cancer.
Materials and Methods: A contemporary, consecutive series of 268 patients undergoing RC and bilateral pelvic lymphadenectomy for bladder cancer between 2002 and 2011. Different clinical and pathological parameters were assessed. Additionally, we investigated whether patients had undergone any PDD-guided TUR-BT prior to RC. The median (range) follow-up was 34 (6-117) months. Kaplan-Meier analysis was used to estimate recurrence-free (RFS) and overall survival (OS) using a log-rank test and Cox regression analysis for multivariate analysis of risk factors of local and/or distant recurrence. Based on regression estimates of significant parameters in multivariate analysis, a new PDD-based scoring model was developed to predict RFS after RC. The predictive accuracy of the model was evaluated using the concordance index.
Results: The 3-year RFS was 69.8% in patients with PDD-guided TUR-BT and 58.2% without PDD-guided TUR-BT (P=0.043). The 3-year OS was 65.0% in patients with normal and 56.6% without PDD-guided TUR-BT (P=0.032). In multivariate analysis, adjusted for various clinical, serological and pathological risk factors, absence of PDD guided-TUR-BT (p=0.038), increased tumor stage (≥pT3a; p = 0.007), lymph-node tumor involvement (p < 0.001) and preoperatively elevated serum-C-reactive protein level (defined as > 0.5mg/dL; p < 0.002) remained independent predictors of inferior RFS. The 3-year RFS in patients with a score in the ranges 0-3, 4-6 and 7 was 81.2%, 42.0% and 14.5%, respectively (p < 0.001). Consideration of PDD-guided TUR-BT in the final model increased its predictive accuracy by 1.8% with a concordance index of 0.748 (P= 0.016).
Conclusion: This is the first series indicating that performance of PDD-guided TUR-BT is associated with improved recurrence-free survival after RC for muscle-invasive bladder cancer. These findings may reflect the critical role of improved bladder tumor resection in invasive stages.

UP.047

Clinical Outcomes of Radical Cystectomy for the Subsequent Bladder Cancer after Nephroureterectomy for Upper Urinary Tract Urothelial Carcinoma

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Introduction and Objectives: To evaluate clinical outcomes of radical cystectomy for the subsequent bladder cancer after nephroureterectomy for upper urinary tract urothelial carcinoma based on a single center's experience.
Materials and Methods: We reviewed the medical records of 442 patients who underwent nephroureterectomy for upper urinary tract urothelical carcinoma between September 2001 and July 2012, and identified 27 patients (M:F=16:11, median age: 69 years (34-86)) who underwent radical cystectomy for the subsequent bladder cancer. We evaluated the perioperative morbidity, overall survival, and cancer-specific survival.
Results: Pelvic lymph node dissection was performed in 17 patients (63.0%), and urinary diversion was performed as ureterocutaneostomy in 23 patients (85.2%) and ileal conduit urinary diversion in 4 patients (14.8%). Bowel injury was a major complication in 2 patients (7.4%). Excluding 3 living patients with <1 year of follow-up period after radical cystectomy, 15 patients (62.5%) died of urothelial carcinoma, and especially 14 patients (58.3%) within 2 years after radical cystectomy (median time to death: 14 months (1-45)). In these 14 patients, 11 patients were ≥pT2 bladder cancer (pT1: 3, pT2: 4, pT3: 2, pT4: 5) and all 7 patients (including 3 patients with pT1 bladder cancer at cystectomy) with previous pT3 upper urinary tract urothelial carcinoma and adjuvant chemotherapy were included in this group.
Conclusion: Despite the radical surgery, most patients with previous pT3 upper urinary tract urothelial carcinoma or ≥pT2 bladder cancer at cystectomy died of urothelial carcinoma within 2 years after radical cystectomy for the subsequent bladder cancer after nephroureterectomy for upper urinary tract urothelial carcinoma. Therefore, in these patients, bladder sparing approach should be considered as the primary treatment option for bladder cancer considering the quality of life.

UP.048

Inflamatory Myofibroblastic Tumor of Urinary Bladder Mimicking Urachal Carcinoma Managed Laparoscopically

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Introduction and Objectives: Inflammatory pseudotumor (IMT) is a rare benign condition of unknown cause. It is characterized by the presence of a mass that may mimic malignancy and is composed of spindle cells mixed with variable amounts of extracellular collagen, lymphocytes, and plasma cells. This entity is benign indolent in nature.
Materials and Methods: A 19-year-old female presented with gross hematuria. An ultrasound of the kidneys and urinary bladder revealed a polypoidal mass located in the dome and anterior wall of the bladder. CT scan revealed a mass of 5X6 cm involving the dome and anterior wall of the bladder. Clinically urachal carcinoma was thought of due to the location of the mass. The patient underwent cystoscopy transurethral biopsy of the lesion was. Histopathology of the biopsy revealed it to be IMT of the bladder. Patient was taken up for laparoscopic partial cystectomy. Cystoscopy was done initially and the resection margins were marked with Collins knife. Subsequently three 12 mm ports were place at and either side of the umbilicus. A partial cystectomy was performed with adequate resection margins. The bladder was subsequently closed using absorbable sutures.
Results: Postoperative course was uneventful. Histopathology confirmed IMT and patient is doing well in the follow-up.
Conclusion: Myofibroblastic tumor of the genitourinary tract is a neoplasm of uncertain malignant potential, and routine surveillance and close clinical follow-up are recommended. Aggressive therapy

(radical cystectomy, radiation or chemotherapy) is unwarranted for the majority of cases. This entity should be kept in mind particularly when a young patients presents with a bladder mass.

UP.049
Invasive Bladder Cancer Associated with Nephrotic Syndrome
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Introduction and Objectives: The association of bladder tumor with nephrotic syndrome is rare. Only 3 cases have previously been reported. We experienced such a rare case. A 76-year-old man with nephrotic syndrome referred to our department, because computed tomography showed multiple bladder tumors. Radical surgery was performed, and nephrotic symptoms completely disappeared. To determine the characteristics of secondary nephrotic syndrome, we reviewed documented cases of solid tumor-associated nephrotic syndrome.
Materials and Methods: We clinically reviewed the previously reported cases of nephrotic syndrome associated with solid malignant tumor. There were 86 well-described cases reported in the English and Japanese literature since 1980, excluding hematological malignancy-associated nephrotic syndrome.
Results: These reports included 57 men and 29 women. The most common underlying malignancy was lung cancer, as in the previous reports, whereas urothelial carcinoma was rare. There were only 3 cases of bladder tumor and one case of renal pelvic tumor. Fifty nine (69%) cases were advanced (lymph node and/or distant metastasis). Renal biopsy was performed for the examination of nephrotic syndrome in 72 cases, and the outcome demonstrated that carcinoma-associated nephrotic syndrome does not always show membranous nephropathy (50%), and may present a minimal change pattern (25%). In 74 (86%) cases, nephrotic symptoms preceded the diagnosis of primary malignancy. Cancer recurrence can induce nephrotic syndrome as a paraneoplastic syndrome. Underlying malignant disease was treated by surgery (including surgery plus radiation and/or chemotherapy) in 41 cases. In 34 of 38 patients who underwent surgery after diagnosis of nephrotic syndrome, treatment improved nephrotic symptoms.
Conclusion: Tumor location associated with secondary nephrotic syndrome was varied. Lung was the most common. Underlying malignancy is advanced in most cases of carcinoma-associated nephrotic syndrome. The surgical treatment of carcinoma improves nephrotic symptoms in most cases.

UP.050
Combination of Pazopanib and Vinflunine Advanced Urothelial Carcinoma after Failure: A Phase I Trial
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Introduction and Objectives: The role of pazopanib in the second-line setting of refractory metastatic transitional cell carcinoma of the urothelium is controversially discussed.
Materials and Methods: The aim of this phase I/II trial was to assess the safety, tolerability, and efficacy of combining pazopanib and vinflunine in patients with metastatic TCCU refractory after first-line platinum-containing therapy. From May 2011 to December 2011, five patients were enrolled in this trial. Pazopanib was the investigated compound; four levels were planned (200, 400, 600, and 800 mg/day). Vinflunine was dosed at 280 mg/m for the first dose and 320 mg/m every 3 weeks thereafter. After the definition of a tolerated dose for the combined therapy, a subsequent phase II study was planned.
Results: At dose level 1, pazopanib 200 mg/day, dose-limiting toxicities were observed in two of five patients. One patient experienced grade 4 febrile neutropenia, which led to treatment discontinuation. Another patient showed grade 3 hepatobiliary disorder with an increase in γ-glutamyltransferase. The study was interrupted at dose level 1 for safety reasons. The initially planned phase II study was therefore not carried out.
Conclusion: This phase I study does not support the combined use of pazopanib and vinflunine in this indication.

UP.051
The Efficiency of Second-Line Chemotherapy with Gemcitabine and Docetaxel for Advanced Urothelial Carcinoma Resistant to Cisplatin-Based Chemotherapy
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Introduction and Objectives: The objective of this study is to evaluate the efficacy and toxicity of combination chemotherapy with gemcitabine and docetaxel for patients with UC after the failure of cisplatin-based chemotherapy as a second-line regimen.
Materials and Methods: From August 2009 to August 2012, 10 patients with UC after the failure of cisplatin-based chemotherapy were recruited and enrolled in this study. Patients received docetaxel 70 mg/m^2 on day 1 and gemcitabine 1000 mg/m^2 on day 1, 8, 15 every 4 weeks. Patients were evaluated after every 1 cycle of therapy by computed tomography.
Results: The patients received 1-2 cycles of gemcitabibe/docetaxel treatment (a median: 2 cycles). Overall response rate was 10%, and disease control rate was 40%. Median overall survival was 13 months, and median progression-free survival was 2 months. In patients who received gemcitabine/cisplatin as first-line chemotherapy, the overall response rate of gemcitabine/docetaxel was 12.5%. In adverse effect, grade 3/4 neutropenia in 8 patients (80%), grade 3/4 thrombopenia in 5 patients (50%), grade 3 anemia in 2 patients (20%) were observed, but there were no severe infection and no transfusion.
Conclusion: The combination chemotherapy with gemcitabine and docetaxel are favorable and tolerable regimen as a second-line treatment for patients with UC after the failure of cisplatin-based chemotherapy.

UP.052
Comparison of Synchronous and Metachronous Primary Carcinomas of the Bladder and Prostate
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Introduction and Objectives: The incidence of multiple primary malignant neoplasms increases with age and they are encountered more frequently these days than before, but the phenomenon is still considered to be rare. Our intent was to investigate the differences of characteristics and clinicopathological features between synchronous and metachronous primary carcinomas of the bladder and prostate.
Materials and Methods: A total of 40 patients diagnosed with dual cancer (prostate cancer and bladder cancer) in a fifteen-year period (1998-2012) were reviewed. Enrolled patients were divided into 3 groups according to cancer development (Group I: Synchronous, Group

II: Bladder cancer after Prostate cancer, Group II: Prostate cancer after Bladder cancer). Each group was compared according to clinicopathological features.
Results: The median age of enrolled patients was 72.5 years (range: 54-83). The proportions of each group were 18 (45%), 5 (12.5%) and 17 (42.5%) respectively (group I, II, III). Between groups, age, prostate specific antigen, tumor stage, grade, multifocality and treatment modality did not show statistical differences. However, group III showed a lower Gleasons score (p=0.034), lower prostate cancer stage (NCCN anatomic stage) (p=0.012) and had a comparatively lower risk of prostate cancer (p=0.068) among the groups.
Conclusion: Patients who were diagnosed with prostate cancer after bladder cancer showed better clinicopathological features of prostate cancer. This is probably due to prostate cancer screening using prostate specific antigens during bladder cancer follow-up. Also, it is important for the clinicians to keep in mind the possibility of a metachronous or a synchronous malignancy in a cancer patient.

UP.053
Effects Following a Physical Exercise Program in Patients Who Have Undergone Radical Cystectomy with Ileal Conduit for Invasive Urinary Bladder Cancer: A Prospective Feasibility Trial
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Introduction and Objectives: High physical function is one of the factors in health-related quality of life that predicts longer survival in patients with urinary bladder cancer. Major surgery, like cystectomy, bears a risk for poor general condition postoperatively. The aim was to evaluate the feasibility and effects of an early exercise program in patients who had undergone open radical cystectomy due to urinary bladder cancer.
Materials and Methods: Eighteen patients (64-78 years) cystectomized for T1G3 + CIS N0M0 -T4bG3 N0-N1M0 urinary bladder cancer, were within one week after discharge from hospital randomized to intervention or control group. The 12-week exercise program consisted of group exercise training twice a week, and walks. The control group only received standardized information at discharge. After the training period and one year postoperatively, assessments of functional capacity, balance, lower body strength and health-related quality of life with the SF-36 were performed.
Results: Thirteen patients completed the training period. The intervention group increased the walking distance and the role physical domain in the SF-36 more than the control group (p = 0.013) and (p = 0.031), respectively. Ten patients were evaluated one year postoperatively, the intervention group had continued to increase their walking distance, whereas the control group had shortened the distance (p = 0.010). The program was well tolerated with no negative effects. The program was feasible for those who completed the program.
Conclusion: A 12-week group exercise training program early after discharge from hospital was feasible for patients who had undergone radical cystectomy due to urinary bladder cancer. Functional capacity and the role physical domain in health-related quality of life increased in short and long term.

UP.054
Fatal BCG Intravesicle Instillation
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Introduction and Objectives: Bacillus Calmette – Guerin (BCG) is a live attenuated strain of Mycobacterium Bovis that has been used as immune therpy since 1976 for the treatment of non-invasive high grade superficial urinary bladder carcinoma in-situ, both of which have high risk of progression and recurrence. The objective of this work is to alert physicians and intensivists, that although this treatment is well tolerated when given according to good practice guidelines, rarely very serious and fatal complications can occur as the case we report here.
Materials and Methods: A 53 year old fit man apart from T1G2 Urinary Bladder Transitional Cell carcinoma, .3received in another hospital five intra-vesicle BCG induction therapy with satisfactory tolerance. The sixth intravesicle instillation was preceded by urethral bleeding and macroscopic haematuria from traumatic catherisation and still he was given the sixth weekly BCG instillation. In the same night the patient became very sick with high grade fever and rigors which was rapidly followed by Hepatic – Renal and Respiratory failure and inspite of Tuberculostatics, broad spectrum antibiotics, vaso active drugs, corticosteroids and mechanical ventilation in the ICU the patient continued to deteriorate and eventually died following a second irreversible cardiac arrest fifteen days after BCG instillation.
Results: On the same night of the treatment BCG intravesicle instillation the patient was hospitalized for six days (26th/05/2012) with continued fever, temperature 39 degrees, rigors, jaundice and pallor. He had intravenous Ciprofloxacin with supportive intensive care treatment. Since the patient was not getting better he discharged himself and was admitted to our hospital on the 7th day post BCG (on 2nd June 2012) until his death 15 days after his BCG instillation. On admission his hepatic profile is showed in Table 1. Computed tomography and ultrasonography showed normal architecture of the liver with normal biliary and pancreatic tracts and normal gall bladder with normal other abdominal and pelvic organs. Liver biopsy: Four days after admission (6/62012). In spite of intensive treatment with meronem (imipenoml infusions, anti Tb treatment with Rimactan, Ethambutol, Hydrocortisone and Perfalgan infusions the patient continued to deteriorate daily. Six days after his admission (8th June 2012) His Liver and renal functions deteriorated rapidly as shown in Table 2. The patient became oliguric, dysnoeic and his oxygen saturation dropped to 87% and was put on respiratory ventilation while preparations were proceeding for haemod alysis the patient died following a second cardiac arrest fifteen days after traumatic intravesicle BCG instillation.
Conclusion: BCG intravesicle instillation is widely used and is well tolerated when appropriately instilled, when there is no urinary infection in a patient who is not on any immunosuppressive drugs and not less than 30 days post TUR for bladder tumours. Low grade fever, flu like symptoms, muscular aches and dysuria has occurred with several of our patients and are considered signs of good response. However some serious but reversible complications have been reported including high grade fever, granulomatous hepatitis, pneumnitis, allergic reactions, urethral obstructions, distant bone abscesses and suppurative lymphadenitis. However the worst irreversible complication is a BCG induced septic shock which can lead up to death as presented here. This fatality

was induced by direct BCG absorption through the bladder mucosa and urethral blood vessels as a result of traumatic urethral catheterisation with macroscopic haematuria. Our urine cultures failed to show bacterial or Mycobacterial growth. In this case, as with similar cases reported in the literature sepsis from a gram negative urinary focus could be speculated however, BCG sepsis must be considered due to close relationship with intravesicle instillation of BCG, therefore our diagnosis of BCG sepsis is one of exclusion and the treatment was given as the risk benefit ratio favours the use of the mentioned anti-tuberculous treatment. While this case report describes a rare event, it emphasizes the caution needed by physicians and intensivists who are routinely involved with BCG intravesicle instillation to recognise BCG sepsis early so that intensive and appropriate therapy is started as early as possible.

UP.054, Table 1. The Patient's Hepatic Profile Showed on Admission

• Increases total Bilirubin	10.2 mg/dl	(NR 0.2 – 1.2)
• Increases Alkaline Phosphate	361 u/L	(NR 40-150)
• Increased SGOT	214 u/L	(NR 5-34)
• Increased SGPT	65 u/l	(NR 0-55)
• Decreases total Protein	5.2	(NR 6.4 -8.3)
Normal PT, PTT, INR Normal serum creatine, electrolytes, CBC, PCR. Negative hepatitis screen and HIV. Negative skin test for tuberculin. Negative urine for zi Nelson stain. PCR for TB		

UP.054, Table 2. The Patient's Liver and Renal Functions Deterioration

Increased serum bilirubin to	18.2mg/dL	(NR 0.2-1.2)
Increased Alkaline Phosphate to	509 u/L	(NR 40-150)
Increased SGPT	243 u/L	(NR 40 -150)
Increased SGOT	44 u/L	(NR 5 – 34)
Decreased Serum Albumin 44 u/L		
Increased creatinine to 9.63 mg/dL		

UP.055
Photodynamic Diagnosis and Treatment of Non-Muscle Invasive Bladder Cancer Using Hexaminolevulinic Acid
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Introduction and Objectives: Recent studies suggest that the use of photodynamic diagnosis (PDD) can improve the diagnostic sensitivity and specificity of cystoscopy as well as the radicality of transurethral tumor resection (TUR) of non-muscle invasive bladder cancer (NMIBC). Our study aims to analyze the value of using PDD in the diagnosis and treatment of non-muscle invasive bladder cancer (NMIBC).
Materials and Methods: The prospective randomized study was conducted over a 12-month period and included 87 patients with primitive NMIBC diagnosed and treated in our department in 2010 and 2011. The study group (PDD) included 42 patients, while 45 patients were diagnosed and treated by conventional methods (cystoscopy and TUR). Patients in the PDD group underwent an additional PDD cystoscopy examination as well as photodynamic assisted tumor resection (TUR-PDD) at 1-2 hours after receiving hexaminolevulinic acid bladder instillation. Adjuvant intravesical therapy was performed depending on tumor risk. Follow-up white light cystoscopy and urine cytology was performed at 3, 6, 9 and 12 months.
Results: A total of 143 tumors were identified for both groups by cystoscopy with an extra 24 more tumors being identified by PDD cystoscopy in 18 patients from the PDD group. Tumor detection analysis was performed as a within patient comparison in the fluorescence group. Fluorescence cystoscopy proved a 97% diagnostic sensitivity compared to 79.7% for WLC and identified 25.5% more tumors than the conventional examination ($p < 0.001$) in the PDD group. We also demonstrated a significant reduction of tumor recurrence rates by 8.57%, 10.48%, 14.76% and 19.05% at 3, 6, 9 and 12 months respectively by using PDD (HR = 0.3933, 95% CI = 0.1625 – 0.9517; $p = 0.0385$) that became an independent positive prognosis factor.
Conclusion: Use of PDD cystoscopy in patients with NMIBC leads to significant improvement of their initial diagnosis efficiency (by over 25%). Better patient prognosis and quality of life following conservative PDD assisted TUR treatment of these tumors can be obtained by significantly reducing the tumor recurrence rate (by 8.5 – 19 %) in the first year of follow-up.

UP.056
Treatment of Repeated Recurrence of Multiple Non-Muscle Invasive Bladder Tumors by Revolix 120W 2 Micron Laser
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Introduction and Objectives: To evaluate the safety and efficacy of transurethral resection of repeated recurrence of multiple non-muscle invasive bladder tumor (RRMNMIBT).
Materials and Methods: We retrospectively analyzed 31 RRMNMIBT patients underwent transurethral RevoLix 120W 2 micron laser resection in our hospital from May 2010 to Feb. 2012. Average relapse frequency was 4.5 (2 ~ 13), Average age was 74.3 years (48 years to 95 years), patients with a history of cardiac stent were 17, and the remaining patients had varying degrees of hypertension, diabetes, coronary heart disease, stroke and history of cerebral hemorrhage.
Results: The tumor number was 3 ~ 95 and mean operative time was 23.5min (8min ~ 48min). All patients had no intraoperative obturator nerve reflex, no bladder perforation and no blood transfusion. Indwelling Foley catheter was placed about 1 ~ 3d and there were no bladder irrigation. All patients were able to get postoperative pathology specimens. Pathology results of 22 patients were non-muscle invasive bladder cancer (high level); the others were muscle invasive bladder cancer (high level).
Conclusion: The 2 micron continuous wave laser resection of non-muscle-invasive bladder tumor is a safe and reliable treatment.

UP.057

Alterations in Contractility and Regulatory Enzymes in Partial Bladder Outlet Obstruction-Induced Compensation and Decompensation of Rat Bladder

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Introduction and Objectives: Bladder contractility is known to be dependent on ATP as the main source of metabolic energy. The aim of this study was to investigate the effects of bladder outlet obstruction during the initial 2 weeks on detrusor contractility and the activity of signaling enzymes of energy control or mechanotransduction, such as AMP-activated kinase (AMPK), extracellular signal-regulated kinase (ERK) 1/2, and protein kinase C, in compensated and decompensated bladders of awake rats.
Materials and Methods: Twenty-seven rats were randomly subjected to sham operations (n=7) or partial bladder outlet obstruction (n=20). Cystometric investigations were performed to measure intra-abdominal pressure to discriminate detrusor contractility. Decompensated bladder was defined as a bladder with a residual urine volume percentage compared with bladder capacity of more than 25%. The expression and phosphorylation of AMPKα, ERK1/2 and PKCα were assessed by Western blotting.
Results: In compensated rat bladder (n=10), contractility during the filling phase was significantly correlated with that during the voiding phase. This correlation disappeared in decompensated bladder (n=6). The phosphorylation levels of AMPK and ERK1/2 in compensated bladders decreased significantly compared with those in sham and decompensated bladders, whereas the levels in decompensated bladders were restored to the level of sham-operated bladders.
Conclusion: The decompensated bladder as defined by our criteria appears to lose control over the correlations among the reactions of the three different contractilities to obstruction during the filling and voiding phases, whereas this control is maintained in compensated bladder. The signaling pathways of AMPK and ERK1/2 may play a role in mediating the transition from a compensated to a decompensated stage.

UP.058

Prospective Comparison of a New Visual Prostate Symptom Score (VPSS) Versus the International Prostate Symptom Score (IPSS) in Men with Lower Urinary Tract Symptoms Scheduled to Undergo Prostate Biopsy

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Introduction and Objectives: The International Prostate Symptom Score (IPSS) is used to assess lower urinary tract symptoms (LUTS) in men with bladder outflow obstruction. However, patients who are illiterate or have a low level of education find it difficult or impossible to complete the IPSS without assistance. The objective of this study was to make a comparison between the IPSS and a new visual prostate symptom score (VPSS), and to compare both scores with uroflowmetry parameters and prostate volume in men with LUTS scheduled for prostate biopsy.
Materials and Methods: Male patients referred to the Department of Urology for the evaluation of LUTS who had an indication for transrectal ultrasound (TRUS) guided prostate biopsy (PSA >4 ng/ml and/or DRE suspicious of malignancy) were included. Patients were asked to complete the IPSS and VPSS. The assessment included uroflowmetry (maximum (Qmax) and average (Qave) urinary flow rate), ultrasound post-void residual volume and TRUS measured prostate volume. Statistical analysis was performed using Student's t-test and Spearman's correlation test ($p<0.05$ was accepted as statistically significant).
Results: In the period May 2010 to January 2013 a total of 87 men were included (mean age 65.1, range 41-85 years). There were statistically significant correlations between the VPSS total vs. IPSS total (correlation coefficient (r) = 0.788); VPSS vs. Qmax (r= -0.285); VPSS vs. Qave (r= -0.365); prostate volume vs. VPSS (r= 0.194), Qmax (r= -0.248) and Qave (r= -0.311). The VPSS took significantly less time to complete than the IPSS (mean 100.0 vs 161.9 seconds). In the patient groups with education grade <7 compared with grade >10, the mean time to complete the questionnaire was: IPSS 187.7 sec vs. 139.7 sec, VPSS 103.9 sec vs. 91.9 sec (all differences statistically significant).
Conclusion: In men with LUTS scheduled to undergo prostate biopsy, the total VPSS correlated significantly with the total IPSS, Qmax, Qave and prostate volume. In men with limited education, the VPSS took significantly less time to complete than the IPSS.

UP.059

Application of Free PSA Mass in Assessment of Total Prostate Volume in Men with Benign Prostatic Hyperplasia

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Introduction and Objectives: Free prostate-specific antigen (fPSA) was known to be superior to PSA in predicting total prostate volume (PV). However, fPSA, as well as PSA, can be affected by non-prostate-related factors such as obesity. Obesity can be negatively associated with PSA and fPSA level by hemodilution. Therefore, we evaluated the accuracy of fPSA mass, the absolute amount of fPSA protein in the circulation, in predicting PV in comparison with fPSA, PSA and PSA mass.
Materials and Methods: We reviewed the medical records of 586 patients with PSA levels of ≤10 ng/ml who underwent a transrectal ultrasound guided prostate biopsy, and were diagnosed as no cancer between May 2003 and May 2012. Body surface area (BSA) and plasma volume were determined via the equations; BSA (m^2) = body weight (kg) $0.425 \times$ height (m) 0.72×0.007184, plasma volume (L) = BSA (m^2) $\times$ 1.670. Then, PSA mass (μg) and fPSA mass (μg) were calculated with multiplying the serum level of PSA (ng/ml) and fPSA (ng/ml) by plasma volume (L). The associations of PSA, PSA mass, fPSA, and fPSA mass with PV measured by TRUS were evaluated by Pearson correlation analysis and receiver operating characteristic (ROC) curves analysis.
Results: PSA, PSA mass, fPSA, and fPSA mass had a significant positive correlation with PV (γ = 0.268, 0.270, 0.404 and 0.412). When PV of 30ml was applied to the cutoff value for BPH, the AUCs of parameters were 0.619, 0.607, 0.730, and 0.729, respectively. When PV of 40ml applied, the AUCs were 0.644, 0.643, 0.745, and 0.749, respectively. And when PV of 50ml applied, the AUCs were 0.659, 0.662, 0.746, and 0.755, respectively. In >50ml PV, fPSA mass was more potent than fPSA statistically ($p = 0.004$).
Conclusion: fPSA and fPSA mass were more accurate than PSA and PSA mass to

predict PV. When PV of 50ml was applied to the cutoff value, fPSA mass was more useful than fPSA.

UP.060
Plasmakinetic versus Monopolar Transurethral Resection of the Prostate: 7-year Comparative Outcomes
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Introduction and Objectives: We aimed to compare the results of the 4- and the 7-year (medium to long term) transurethral resection of the prostate (TURP) with the standard monopolar and bipolar plasmakinetic method.
Materials and Methods: A retrospective analysis was performed in 124 patients with complete data, who were alive and had 7 years of regular follow-up. Of those 124 patients, 65 (52%) underwent monopolar TURP (M-TURP), and 59 (48%) plasmakinetic TUR (P-TURP). During follow-up periods, the IPSS, the maximal flow rate (Qmax) measured by uroflowmetry, and the PSA values were recorded. Also, the patients in whom alpha blockers were administered because of postoperative growing adenoma, and had been operated on due to urethral stricture, bladder neck contracture or a growing adenoma were recorded.
Results: There was no statistically significant difference in any pre-operative and post-operative 1st, 4th and 7th year follow-up parameters between M-TURP and P-TURP groups for PSA, IPSS, Qmax values, and performed urethrotomies, the usage of alpha-blockers, and the frequency of reoperations ($p > 0.05$).
Conclusion: When the medium-to long-term results are compared, P-TURP and M-TURP seem to have similar results. However, the major advantage of the plasmakinetic method is the elimination of the risk of development of the electrolyte imbalance, and thus the elimination of the peri-operative risk of TUR syndrome in the early period.

UP.061
Predictors of Bladder Neck Contracture after HOLEP for BPH Patients
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Introduction and Objectives: The incidence of bladder neck contractures (BNC) after HOLEP has been reported to be 0.35-5.0%. We evaluated the factors that predict the occurrence of this complication, BNC after HOLEP for BPH patients.
Materials and Methods: We analyzed the medical reports of 310 BPH patients underwent HOLEP by single surgeon, retrospectively. We investigated the incidence of BNC after HOLEP, and compared the risk factors of BNC according to its occurrence. The patient's age, preoperative PSA, prostate volume, timing of surgery, operative time, the presence of prostate calculi on TRUS, and presence of prostatitis on HOLEP pathology were used as predictors.
Results: Tracking during the endoscopic procedure requiring the incidence of BNC, 17 patients (5.48%) occurred, and the average duration of endoscopic treatment for BNC was 7.8 months (2.6 to 17.8), respectively. BNC occurred in the group of preoperative PSA levels were lower (1.19 ng / ml vs. 1.72 ng / ml), in the group of the prostate was small (29.5cc vs. 38.8cc), in the group of prostate calculi (84.6% vs. 56.0%), and in the group of presence of prostatitis on HOLEP pathology (29.8% vs. 9.1%) ($p < 0.05$). There was no significant difference according to the patient's age, timing of surgery, operative time ($p > 0.05$).
Conclusion: High preoperative explanation is required for the risk of postoperative bladder neck contracture in BPH patients of lower PSA levels, smaller prostate, presence of prostate calculi, and presence of prostatitis on HOLEP pathology.

UP.062
The Efficacy of Holmium Laser Enucleation of Prostate (HoLEP) for Prostate Less Than 30 Grams
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Introduction and Objectives: Here the author report the efficacy of holmium laser enucleation of prostate (HoLEP) for prostate less than 30 grams.
Materials and Methods: From May 2010 to December 2012, 300 consecutive patients treated with HoLEP were enrolled in this study. They were divided into the group with less than 30 grams of prostate volume (group I, n=25), and the group with 30 grams or more of prostate volume (group II, n=275). All patients were evaluated by digital rectal examination (DRE), transrectal ultrasonography (TRUS), serum PSA preoperatively. International Prostate Symptom Score (IPSS), peak urinary flow rate (Qmax), and postvoid residual urine (PVR) were documented preoperatively and 3 months postoperatively. The preoperative and postoperative 3 month results were compared in the 2 groups.
Results: The mean prostate volume (grams) was 26.0 (group I) and 64.3 (group II), and the mean PSA was 0.78 (group I) and 3.7 (group II), respectively. Both groups (group I vs II) were comparable in terms of age (66.3 vs 68.1), pre-operative IPSS (19.7 vs 19.4), QOL score (3.9 vs 4.1), Qmax (ml/s; 12.2 vs 12.4), PVR (ml; 43 vs 59). At follow up, both groups (group I vs II) showed significant improvement IPSS (10.2 vs 9.8), QOL score (1.8 vs 2.1), Qmax (ml/s; 18.1 vs 19.2) and PVR (ml; 23 vs 32) ($p<0.05$, respectively) and these parameters were not significantly different between the groups after 3 months postoperatively ($p>0.05$).
Conclusion: HoLEP showed statistical improvement of clinical parameters after 3 month operation in BPH patients with prostate less than 30 grams as well as 30 grams or more of prostate volume.

UP.063
Mid-Term Results of Holmium Laser Enucleation of the Prostate (HoLEP) for the Treatment of Benign Prostatic Hyperplasia (BPH) by a Single Surgeon
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Introduction and Objectives: Here the author reports the mid-term clinical outcomes analysis with efficacy and safety of HoLEP.
Materials and Methods: From May 2010 to September 2012, 270 consecutive patients treated with HoLEP were enrolled in this study. All patients were evaluated by digital rectal examination (DRE), transrectal ultrasonography (TRUS), serum PSA preoperatively. International Prostate Symptom Score (IPSS), peak urinary flow rate (Qmax), and postvoid residual urine (PVR) were documented preoperatively and 1, 3, 6, 12, 24 months postoperatively. The perioperative data and complications were analyzed. All HoLEP procedures were done by a single surgeon.
Results: The mean patient age at time of surgery was 67.5 years (45-82), and the mean PSA was 3.7 ng/ml (0.4-19.4). Mean operation time was 73.6 minutes (30-150). Mean prostate volume was 64.3 ml (20-150) and mean resected tisssue weight was 9.3 g (2-63). Mean catheter

indwelling time was 2.7 day (1-6), and mean hospital stay was 3.2 day (1-7). The blood loss was minimal, so transfusion was not needed. The baseline data were IPSS; 23.0 (7-35), QoL score; 5.4 (4-6), Qmax (ml/s); 12.5 (1.2-16.5), PVR (ml); 59 (20-250). Postoperatively, IPSS and QoL scores and PVR decreased, and Qmax increased significantly. Intraoperative complication was minor capsular perforation (n=5). Postoperative complications were acute urinary retention (n=9), transient incontinence (n=17), urinary tract infection (n=4), urethral stricture (n=4) and bladder neck contracture (n=12).
Conclusion: HoLEP showed statistical improvement of clinical parameters after 1 month operation and these results sustained for 24 months regardless of prostatic size.

UP.064
Preoperative Factors Related to the Initial Quality of Life after Holmium Laser Enucleation of the Prostate
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Introduction and Objectives: To investigate preoperative clinical factors and urodynamic parameters related to the initial quality of life (QoL) after holmium laser enucleation of the prostate (HoLEP) in patients with benign prostatic hyperplasia (BPH).
Materials and Methods: A retrospective review was performed on the clinical data of 91 patients who underwent HoLEP and could be followed up for more than 3 months. The patients were divided into two groups with reference to the score of QoL in international prostate symptom score (IPSS) at 3 months after HoLEP (IPSS/QoL ≤ 3; Group 1, IPSS/QoL ≥ 4; Group 2). Preoperative clinical factors of each group were compared in terms of prostate volume, prostate specific antigen (PSA), the history of acute urinary retention (AUR), urgency incontinence, IPSS and urodynamic parameters. Detrusor overactivity was defined as involuntary detrusor contractions with urgency during the filling phase. Detrusor underactivity was defined as a bladder contractility index of less than 100 in urodynamic study (UDS)
Results: The mean age of group 1 (n=66) and group 2 (n=25) was 68.8±6.7 years and 69.9±7.6 years. Total prostate volume of group 1 (57.3±34.5mL) was larger than group 2 (42.2±13.5mL) (P=0.036).There were no significant differences in each group about mean PSA, the history of AUR, and urgency incontinence. Mean preoperative IPSS scores (storage symptom subscore, voiding symptom subscore, and QoL score) were not different between group 1 and group 2. In preoperative UDS, degree of bladder outlet obstruction (BOO) of group 1 was significantly higher than that of group 2 (Group 1: 2.7±1.2, Group 2: 1.9±1.3, P=0.013). Detrusor pressure at maximum flow rate of group 2 was significantly lower than that of group 1 (Group 1: 60.87±27.64cmH2O, Group 2: 45.64±22.26cmH2O, P=0.023). The incidence rate of detrusor underactivity in group 2 (76%, n=19) was significantly higher than that of group 1 (54.5%, n=36) (P<0.001).
Conclusion: The results suggest that preoperative total prostate volume, degree of BOO and the existence of detrusor underactivity would affect the initial QoL after HoLEP. Preoperative UDS may play an important role in predicting initial QoL and prognosis in HoLEP procedure.

UP.065
Comparison of Short-Term Outcome in Early HoLEP and TUR-P by Single Surgeon
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Introduction and Objectives: Holmium Laser Enucleation of the Prostate (HoLEP) is known to have a long learning curve despite the excellent reliability and effectiveness compared to Transurethral resection of Prostate (TUR-P). This study aims to compare short-term outcome of early HoLEP with previously performed TUR-P by single surgeon.
Materials and Methods: From May 2011 to December 2011, 76 consecutive patients underwent TUR-P, and from December 2011 to April 2012 52 patients underwent HoLEP. Of these patients, 64 (group T) and 41 (group H) respectively that excluded patients with prostate cancer and followed for more than 3 months were retrospectively studied. Operation time, resected weight, hemoglobin loss, blood transfusion, duration of postoperative indwelling catheter, hospital stay and IPSS and peak urinary flow at 1 and 3 months after surgery were compared in each group.
Results: There was no significant difference comparing age and volume of prostate. The operation time (81.2±28.7min vs 108.7±44.9min, p<0.001) and the hemoglobin loss (-1.07±0.81 mg/dl vs -0.42±0.86 mg/dl, p<0.001) were more significant in group H. The duration of postoperative indwelling catheter (3.7±2.4day vs 2.1±1.7day, p<0.001) and hospital stay (5.3±1.4 vs 4.2±1.8, p<0.001) was shorter in group H. The rest of parameters did not show significant differences between two groups. The cases of postoperative transfusion were 6 and 0 respectively.
Conclusion: Hemoglobin loss, the duration of postoperative indwelling catheter and hospital stay significantly decreased in the early HoLEP. But, the operation time of HoLEP was longer. There was no difference comparing voiding symptoms after 3 months of surgery.

UP.066
Comparison of Short-Term Outcome in Early HoLEP and Early PVP
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Introduction and Objectives: Holmium laser Enucleation of the Prostate (HoLEP) and Photoselective vaporization of the prostate (PVP) are widely used laser technique in the treatment of Benign Prostatic Hyperplasia (BPH). This study aims to compare short-term outcome of early HoLEP with early PVP.
Materials and Methods: From April 2009 to July 2009, 80 consecutive patients underwent PVP, and from December 2011 to April 2012 52 patients underwent HoLEP. Of these patients, 57 (group P) and 41 (group H) respectively that excluded patients with prostate cancer and followed for more than 3 months were retrospectively studied. Operation time, applied laser energy, hemoglobin loss, blood transfusion, duration of postoperative indwelling catheter, hospital stay and IPSS and peak urinary flow at 1 and 3 months after surgery were compared in each group.
Results: There was no significant difference comparing age and volume of prostate. The operation time (61.1±37.4min vs 117.9±61.2min, p<0.001) and the

applied laser energy (69.4±72.9 KJ vs 108.7±44.9 KJ, p<0.001) were more significant in group H. The rest of parameters did not show significant differences between two groups. The cases of postoperative urge incontinence that persist for more than 3 months were 0 and 3 respectively.
Conclusion: There were no differences comparing hemoglobin loss, duration of postoperatively indwelling catheter, hospital stay and voiding symptoms after 3 months of surgery. But, the operation time of HoLEP was longer, the cases of urge incontinence that persisted for more than 3 months were observed in HoLEP.

UP.067
Study of Efficacy and Safety of KTP Photoselective Vaporization of the Prostate for the Treatment of Benign Prostatic Hyperplasia: The 2-Year Results
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Introduction and Objectives: The aim of study was conducted to evaluate, with using the 2-year follow-up data, the clinical efficacy and safety of performing photoselective vaporization of the prostate (PVP) for the treatment of symptomatic benign prostatic hyperplasia (BPH).
Materials and Methods: We analyzed the clinical data of 48 men treated by PVP. The parameters were the changes from baseline of the International Prostate Symptom Score (IPSS), the quality of life (QoL) score, the maximum urinary flow rate (Qmax) and the postvoid residual volume (PVR). The patients were evaluated preoperatively and then at post-operative 1, 3, 6, 12 and 24 months. Their complications were also evaluated.
Results: The mean prostate volume was 35.6ml. The mean operation time was 34.2 minutes and there was no significant blood loss or fluid absorption during or immediately after PVP. Significant improvements in the IPSS, the QoL score, the Qmax were noted as early as 1 month after PVP treatment. After 24-month follow-up, the mean IPSS decreased from 17.2 to 10.8 and the QoL score decreased from 4.7 to 2.2 while the mean Qmax changed from 9.4 to 13.8ml/sec. The complications were retrograde ejaculation (29.2%), transient catheterization (6.3%), transient dysuria (4.2%), and urethral stricture (2.1%).
Conclusion: Our experience suggests that GreenLight laser PVP is safe and effective for treating BPH.

UP.068
100 Consecutive Suprapubic Prostatectomies without Blood Transfusion: A Personal Experience
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Introduction and Objectives: Most series of suprapubic prostatectomy for benign prostatic hyperplasia (BPH) are still associated with significant high rate of blood transfusion. This paper reports on perioperative factors that helped avoid blood transfusion in patients undergoing suprapubic prostatectomy for BPH.
Materials and Methods: One hundred consecutive patients with BPH were operated upon between 2006 and 2013, all using a hemostatic suturing technique that covered the main areas of anatomic distribution of the urethral arterial branches of the inferior vesical artery. Preoperative and postoperative blood hemoglobin levels, prostate specimen weights and peri-operative complications were recorded. The main outcome measures were to identify those factors that helped avoid blood transfusion.
Results: The mean age of the patients was 71.2 (range of 52 to 88 years). The mean prostate weight was 95.6gm – (range of 50 to 238gm). The mean hemoglobin difference was 1.15 mg/dl (range of 0.3mg/dl to 2.7mg/dl). There was no mortality. There was wound infection in 4 patients, while in 3 other patients, there was catheter blockage with clots that were easily flushed out. The identified factors that helped avoid blood transfusion in these patients included: patient selection, surgical technique and restrictive approach to blood transfusion.
Conclusion: Careful patient selection, excellent surgical technique and restrictive approach to blood transfusion have enabled avoidance of blood transfusion in our patients undergoing suprapubic prostatectomy for BPH.

UP.069
Simplified Percutaneous Cystostomy for Acute Urinary Retention in Low-Resource Environments
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Introduction and Objectives: Many suprapubic cystotomy procedures for acute urinary retention in low-resource economies are still done through formal open procedure or a modified open procedure: using smaller dissection that aids visualization of the anterior bladder wall. The vast majority of these patients will carry these catheters for long before definitive surgery hence necessitating large bore catheter insertion. This paper reports on the use of a simplified large bore puncture suprapubic cystotomy to relief urinary retention in low resource environments.
Materials and Methods: Seventy-nine male patients with acute urinary retention were treated between 2006 and 2013, all using a simplified suprapubic cystotomy approach. The simplified suprapubic cystotomy approach consisted of puncture of the palpably distended bladder with a large size surgical blade (size 20, 22 or approximate size) under local anesthesia along the mid abdominal line 2 finger breaths above the superior margin of symphysis pubis. Prior to the puncture, application of local anesthesia and successful aspiration of urine at same level was done. Subsequently a size 18 or 20 Foley catheter preferably re-enforced with a catheter introducer is then passed into the bladder.
Results: The mean age of the patients was 61.9 (range of 28 to 96 years). The causes of urinary retention were: urethral stricture – 34 patients , benign prostate hyperplasia (BPH) – 21 patients, cancer of the prostate – 9 patients, urethral trauma – 8 patients, co-existing BPH and urethral stricture – 6 patients, bladder neck stenosis – 1 patient. There was no mortality and no adjacent viscera puncture. There were 2 cases of catheter blockage with clots that were easily flushed out.
Conclusion: In the absence of commercial suprapubic cystotomy trocars, large-bore emergent access to the bladder can be safely achieved through direct puncture of the palpably distended bladder with adequately sized surgical blade that will subsequently allow resistance-free placement of a sizable Foley catheter.

UP.070
Treatment of High-Risk Patients with Benign Prostatic Hyperplasia by 2-Micron Laser Vaporesection
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Introduction and Objectives: To evaluate the safety and efficacy of the RevoLix 120W 2 micron continuous wave laser vaporesection in the treatment of high-risk patients with benign prostatic hyperplasia (BPH).
Materials and Methods: We retrospectively analyzed 46 high-risk patients with

BPH underwent 2-μm continuous wave laser vaporesection in our hospital from May 2010 to Feb. 2012. High-risk patients were those who had a history of cardiac stent, had varying degrees of hypertension, diabetes, coronary heart disease, stroke and history of cerebral hemorrhage. Average age was 76 years (68 years to 95 years). The operative time, drop in hemoglobin, indwelling catheterization time, operative complications, international prostatic symptom scores (IPSS), quality of life (QoL), urinary flow rate (Qmax), and post voiding residual urine volume (PVR) were observed.
Results: All 46 patients recovered without incident. The mean operative time was 78±18.3 min. Occasional venous hemorrhage occurred during the operation, but no arterial hemorrhage was observed. Hemoglobin decreased from preoperative 14.8 g/dL to postoperative 14.2 g/dL. IPSS decreased from preoperative 23±6.8 to postoperative 9±3.5, QoL scores decreased from 5.2±0.7 to 2.2±0.6, Qmax increased from 8.5±5.3 to 22.2±11.6 mL/sec, PVR decreased from 91.3±52.2 to 22.3±6.8 mL. The parameters were significantly different between pre- and postoperative results.
Conclusion: The RevoLix 120W 2-μm continuous wave laser vaporesection is safe and effective in the treatment of high-risk patients with BPH.

UP.071
Impact of Concurrent Statins and 5αReductase Inhibitors Use on Serum PSA and Prostate Volume in BPH Patients
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Introduction and Objectives: Statins used to improve serum lipid parameters, including reduction in total cholesterol, low-density lipoprotein, and triglycerides. Reduction of serum cholesterol may also be relevant in the treatment of benign prostatic hyperplasia (BPH), since epidemiological data link obesity and dyslipidemia with the rate of benign prostatic growth in humans. These studies supported the rationale for an approach to the treatment of BPH that involves simultaneous management of serum lipid levels. The objective of the current study was to determine whether statins could have the utility in the treatment of BPH through impact on prostate volume (PV).
Materials and Methods: We analyzed BPH patients in our institution from January 2010 to December 2011 retrospectively. A total of 1104 patients were enrolled in this study and divided into four groups according to the use of medications, group A (n=562, α1-receptor antagonists only), group B (n=113, α1-receptor antagonists and statins), group C (n=219, α1-receptor antagonists and 5α-reductase inhibitors), and Group D (n=210, α1-receptor antagonists, statins, and 5α-reductase inhibitors). We compared age, serum PSA, PV measured by transrectal ultrasonography of prostate, underling diseases between the four groups. We also analyzed PV changes after 1 year medications between the groups and the correlation between statins use and PV, PSA using multivariate regression analysis including confounding factors.
Results: There were no significant differences in patient backgrounds, including age, serum PSA, PV, body mass index, between the four groups. The serum PSA decreased in group B (8.5%), C (45%), and D (52%), but not in group A. The PV also decreased in group B, C, and D and statins use was associated with about 2% reduction in PV (Group B), which occurs within 1 year. Statins use was an independent prognostic factor regarding PV reduction in multivariate regression analysis model of group A and B after adjusting significant covariates. However, when compared PV change between group C and D, PV reduction were 24%, 25%, respectively (P>0.05). Statins has no effect on PV reduction when simultaneously taking 5α-reductase inhibitors.
Conclusion: Statins use was associated with a mild (2%) reduction in PV growth in only not taking 5α-reductase inhibitors, which occurs within 1-year. Statins was not effective over 1 year in the treatment of BPH when taking 5α-reductase inhibitors.

UP.072
Do Effects on Bowel Patterns Imposed by Solifenacin Always Have Negative Impacts on Treating Patients with Overactive Bladder (OAB)?
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Introduction and Objectives: To investigate whether solifenacin intervention leads to any changes in bowel symptoms, and the types of impacts imposed on bowel symptoms in patients with overactive bladder (OAB).
Materials and Methods: This prospective, single-arm observational study included 40 adult patients who underwent anticholinergic treatment for OAB. Outcome measures were determined by examining differences in voiding and bowel symptoms, before and after patients were begun on anticholinergic therapy. Patients were evaluated at baseline, 4, and 12 weeks via questionnaires on OAB and irritable bowel syndrome (IBS), side effects, and overall satisfaction with the treatment.
Results: A total of 22 patients completed follow-up visits. Mean age was 62.1 ± 10.3 years. The most common side effects were constipation and dry mouth. OAB symptom scores improved, with significant changes in urgency, incontinence, and total symptom scores and borderline significant changes in frequency. All bowl symptoms except diarrhea became aggravated. Average constipation and overall quality of life worsened with significance. Aside from the specific bowel habit changes, solifenacin treatment resulted in changes in patient status of IBS, as well. Patients were mostly satisfied with the treatment, despite some aggravations in discomfort due to defecation problems.
Conclusion: This study shows that solifenacin treatment is effective for treating urinary incontinence but may lead to changes in bowel patterns and affects overall QoL. Effects on bowel patterns imposed by solifenacin can be positive or negative impacts; therefore, physicians should consider more holistic therapy by addressing overall bowel symptoms when treating OAB patients

UP.073
Evaluation of Patient Outcome after Discontinuation of Alfuzosin Treatment for Benign Prostatic Hyperplasia: A Multicenter, Prospective Study
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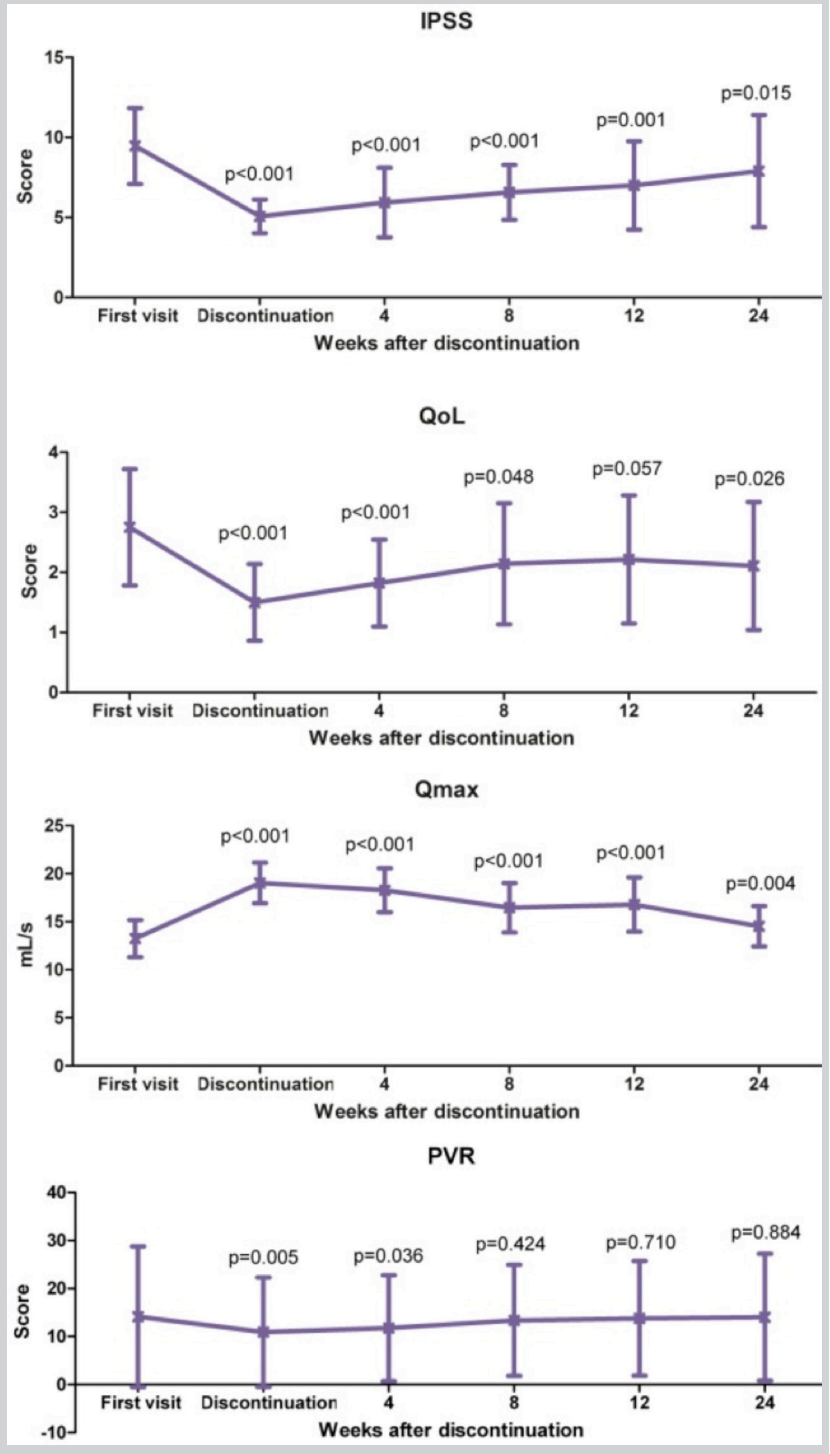
Introduction and Objectives: To assess patient outcome after discontinuation of

alfuzosin treatment in patients with benign prostatic hyperplasia (BPH).
Materials and Methods: This study included 200 BPH patients. Alpha-blockers were discontinued after 12 weeks of treatment when the International Prostatic Symptom Score (IPSS) was reduced to <8 points, peak urine flow rate (Qmax) was increased to ≥ 15 mL/sec, the post-voiding residual urine volume (PVR) was ≤ 100 mL, and the patient agreed to discontinue treatment. Urinary symptoms of the patients were assessed at 4, 8, 12, and 24 weeks after discontinuation of medication, and surveys were performed asking whether patients wanted to restart administration of medication.
Results: Out of 200 enrolled patients, 142 (71.00%) received 12 weeks of treatment with 10 mg of alfuzosin. The medication was discontinued in 58 out of 142 patients (40.85%) because urinary symptoms had improved. Among these patients, follow up observations were performed for 49 patients up to 24 weeks after treatment discontinued. Of these 49 patients, 28 (57.14%) showed correct urination without a need to restart treatment up to 24 weeks after the medication was discontinued (Figure 1). The discontinuation group demonstrated improved voiding symptoms, including Qmax and PVR, relative to the re-administration group at baseline. Furthermore, the discontinuation group showed a smaller prostate volume than the re-administration group (p=0.045) (Table 1).
Conclusion: When patients with BPH displayed symptomatic improvement upon treatment with alpha-blockers, the improvements were maintained in a select subpopulation of patients without the need to re-administer the alpha-blockers.

UP.073, Figure 1. Changes in voiding symptoms of discontinuation group. Scores at each visit were compared with at first visit.



UP.073, Table 1. Comparison between groups of re-treatment (group A) and discontinuation (group B)

	Group A	Group B	p-value
Case, n	21	28	
Age, years	68.20±4.47	70.08±3.25	0.279
IPSS (at first visit)	11.38±3.56	9.46±2.37	0.040
IPSS (12 weeks after treatment)	5.95±0.97	5.07±1.05	0.004
IPSS (12 weeks treatment-first visit)	5.43±3.19	4.39±1.79	0.191
QoL (12 weeks after treatment)	1.86±0.79	1.50±0.64	0.099
QoL (at first visit)	2.81±1.03	2.75±0.97	0.838
QoL (12 weeks treatment-first visit)	0.95±0.38	1.25±0.89	0.157
Qmax (at first visit), mL/s	11.95±1.60	13.25±1.94	0.013
Qmax (12 weeks after treatment), mL/s	17.19±1.83	19.04±2.12	0.002
Qmax (12 weeks treatment-first visit), mL/s	5.24±0.44	5.79±0.69	0.001
PVR (at firsr visit), mL	26.24±1.13	14.14±14.65	0.022
PVR (12 weeks after treatment), mL	21.62±18.18	10.92±11.39	0.015
PVR (12 weeks treatment-first visit), mL	4.67±3.95	3.21±5.62	0.317
PSA, ng/mL	2.41±0.51	1.97±0.61	0.085
Prostatic volume, mL	32.20±3.26	28.69±2.39	0.045

UP.074

Efficacy of Oral Pentosan Polysulfate Add-On Therapy for Unresponsive Male OAB

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Introduction and Objectives: Male patients with small prostates, no obvious bladder outlet obstructions, complaining of lower urinary tract symptoms of frequency and urgency are difficult to treat. Many of these patients are without apparent underlying pathologies to target for treatment. The current study investigates the efficacy of pentosan polysulfate as an add-on therapy for patients not responding to anticholinergic and alpha blocker treatment.

Materials and Methods: Patients with prostate volume less than 40 ml, without obvious Hunner's ulcers or bladder pain, but complaining of frequency and urgency were prospectively enrolled. All patients had previously received at least 6 months of either alpha blocker or anti cholinergics or a combination of both. Frequency volume charts were performed and patients with a maximum voided volume of over 350 ml were excluded. Patients were treated with either Pentosan Polysulfate 600 mg with solifenacin 10 mg and tamsulosin 0.4mg (Control Treatment Group) or without Pentosan Polysulfate (Add-On Treatment Group) for 3 months. Patients were followed with the Overactive Bladder Symptom Score (OABSS) and a three day voiding diary.

Results: A total of 65 patients were enrolled with 4 patients lost during follow up. Forty-one patients in the Control Treatment Group, and 20 patients in the Add-On Treatment Group completed the study. Both groups showed no difference in change of average voided volume (increase of 45.35±10.14 vs. 53.68±8.38 ml for Control and PPS, respectively, p=0.92), maximum voided volume (increase of 90.99±20.34 vs. 102.60±16.02ml, p=0.23) or nocturia (decrease of 1.32±0.21 vs. 1.51±0.34 times, p=0.84). However, total frequency (decrease of 1.97±0.31 vs. 2.90±0.65 times, p=0.04) showed slightly greater decrease with the PPS group. OABSS scores also showed a greater decrease with PPS group (decrease of 1.01±0.21 vs. 2.17±0.19, p=0.03).

Conclusion: Addition of Pentosan Polysulfate may be a feasible option for difficult-to-treat male OAB patients not responding to previous combination treatment of anticholinergics and alpha blockers.

UP. 075

Comparison between Alpha-Blocker Monotherapy and 5-Alpha Reductase Inhibitor Monotherapy Following Combination Therapy in Benign Prostatic Obstruction

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Introduction and Objectives: No guideline on which drug should be discontinued after combination therapy (CT) of alpha-blocker (AB) and 5-alpha reductase inhibitor (5ARI) in men with benign prostatic obstruction. Objective: To compare efficacy of AB monotherapy, 5ARI monotherapy and CT in men with symptom improvement after 9-month CT.

Materials and Methods: Men aged ≥45 years with IPSS QoL score ≤3 after ≥ 9-month of CT were randomly assigned to AB monotherapy, 5ARI monotherapy or CT in 1:1:1 ratio. After 12 months, changes in the IPSS, ICIQ male LUTS questionnaire, voiding diary, Qmax/PVR, prostate volume and PSA were compared among groups. Treatment satisfaction and willingness to continue were also compared. For sub-analysis, patients were divided into two groups by prostate size of 40gm.

Results: Of a total of 308 men randomized (98 AB, 98 5ARI, 112 CT), 247 (82, 68, 97) completed the 12-month therapies. Analysis included 298 (96, 91, 111) and men with prostate volume ≥40gm were 76 (26, 22, 28). Among baseline characteristics, IPSS QoL score was significantly higher in 5ARI group. After 12 months, changes in the IPSS, ICIQ

UP.075, Table 1.

	AB		5ARI		CT		p-value
	Baseline	12-month	Baseline	12-month	Baseline	12-month	
IPSS							
total	9.3±6.0	7.6±4.6*	9.8±4.9	9.5±5.8	9.7±5.0	8.1±5.6*	0.1597
voiding	5.2±4.2	3.9±3.1*	5.6±3.8	5.7±4.3	5.7±3.9	4.79±4.2*	0.0622
storage	4.0±2.5	3.7±2.2	4.1±2.3	3.6±2.1	4.0±2.1	3.3±2.2*	0.4820
QoL	1.9±0.9	1.8±1.1	2.2±0.8	2.2±1.2	1.9±0.9	1.8±1.1	0.6021
ICIQ male LUTS							
v-sum	5.1±3.7	4.1±2.9*	5.4±3.6	5.6±3.5	6.0±3.7	4.8±3.9*	0.0691
i-sum	1.4±1.8	1.0±1.5*	1.2±1.5	1.7±1.4	1.8±2.2	0.9±1.6*	0.0558
Voiding diary							
frequency/24hr	7.8±1.9	7.5±2.1	7.9±1.9	7.6±2.0	7.8±1.9	7.2±2.1*	0.6531
nocturia/24hrs	1.6±1.0	1.4±1.0	1.4±1.0	1.2±0.8	1.5±1.1	1.1±0.8*	0.1540
urgency/24hrs	0.5±1.6	0.2±0.6	0.8±1.9	0.4±1.1	0.4±0.8	0.4±1.1	0.9853
Qmax	14.7±7.4	14.0±6.2	15.4±8.2	14.1±6.6	14.2±7.6	13.9±5.6	0.6598
PVR	34.0±39.2	40.8±48.3*	36.9±45.8	34.6±30.8	30.9±28.3	41.6±48.7	0.3554
Prostate volume	34.7±18.4	41.1±19.5*	34.9±13.8	33.9±12.3	36.1±16.1	35.1±14.3	<0.001†
PSA	1.4±1.8	2.4±1.8*	1.2±0.9	1.4±1.3*	1.7±1.8	1.6±2.0	<0.001§

p-value=Kruskal-Wallis test,* p<0.05 comparison between baseline and 12-month within group, †AB vs. 5ARI p<0.0001, AB vs. CT p<0.0001, 5ARI vs. CT p=1.000, §AB vs. 5ARI p<0.0001, AB vs. CT p<0.0001, 5ARI vs. CT p=0.1430

male LUTS questionnaire, voiding diary and Qmax/PVR were comparable among groups (Table 1). Prostate volume and PSA significantly increased in AB compared with other groups. Change in treatment satisfaction was significantly favorable in AB compared with CT group (AB vs. 5ARI p=1.1085, AB vs. CT p=0.0071, 5ARI vs. CT p=0.2139). Significantly more patients in CT wanted to continue the therapy than 5ARI (81% AB, 68% 5ARI, 86% CT, p=0.0036). Prostate size did not affect the results.
Conclusion: There was no significant difference in symptom changes among AB, 5ARI and CT groups. However, no significant change in symptom was observed and more patients did not want to continue therapy in 5ARI group. Efficacy of 5ARI monotherapy after CT needs more investigation.

UP.076
DES (Diethylstilbestrol 1 mg) in the Treatment of Acute Urinary Retention Due to Prostatic Obstruction in Elderly
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Introduction and Objectives: To evaluate efficacy, safety and adverse effects of DES 1 mg plus AAS 100 mg over 4 weeks as a minimally invasive alternative in an elderly population presenting with urinary retention secondary to prostatic obstruction.
Materials and Methods: Prospective, uncontrolled study, after local ethics committee approval, including 48 of 64 consecutive patients who presented with urinary retention and who failed a catheter-free trial after one week of full dose alpha-blocker and 5-alpha-reductase inhibitor were offered DES 1 mg plus AAS 100 mg over 4 weeks to establish the rate of catheter dependence. PSA, total testosterone and prostate volume variations, age and residual urine volume were recorded and patients that had cardiovascular morbidity (n=7) urinary tract infection (n=2), neurological diagnosis (n=2) or preferred immediate channel TURP (n=5) were excluded.
Results: Mean age was 76.6 years, mean prostate volume 90 g and mean follow-up 204 days; 58% (28/48) was passing urine and 42% (20/48) was catheter dependent after 4 weeks DES trial. Mean age and residual urine volume of catheter dependent patients was 82.4 years and 850 ml compared with 74.6 years and 530 ml in catheter-free men, respectively, (both P < 0.01). Seventy-five percent (6/8) of patients 80 years and older and 100% (3/3) of those presenting upper tract dilatation were catheter dependent. Transient nipple and breast tenderness and gynecomastia were the only adverse effects reported by 21 % (10/48) and 4% (2/48). No patient presented severe complications. Means of PSA, total testosterone and prostate volume and also their variations were not catheter-free predictive.
Conclusion: Outcome after 4 weeks of DES for urinary retention is satisfactory, higher residual urine volume and advanced age were associated with higher failure. Overall, patients report good tolerance.

UP.077
Long-Term Antimuscarinic Use: Incidence of Urinary Retention during Fixed Dose Combination Therapy with Solifenacin + Tamsulosin OCAS™ in Men with Voiding and Storage LUTS in the NEPTUNE Studies
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Introduction and Objectives: NEPTUNE was a 12-week, randomised, double-blind, placebo-controlled phase 3 trial evaluating the efficacy and safety of a once daily fixed dose combination (FDC) of solifenacin (Soli) and an oral controlled absorption system (OCAS™) formulation of tamsulosin (TOCAS). Patients completing NEPTUNE could continue into the 40 week, open-label NEPTUNE II study. The aim of this analysis was to evaluate patients who reported urinary retention (UR) in either study.
Materials and Methods: Men aged ≥45 years, with LUTS (total IPSS ≥13, ≥2 urgency episodes/24 h [PPIUS grade 3 or 4] and ≥8 micturitions/24 h) with a prostate weight <75 g, Qmax 4.0–12.0 ml/s and a PVR ≤150 ml were randomised to TOCAS 0.4 mg, FDC Soli 6 mg or 9 mg + TOCAS 0.4 mg, or placebo for 12 weeks. Patients continuing into NEPTUNE II received FDC Soli 6 mg + TOCAS for 4 weeks, then FDC Soli 6 mg or 9 mg + TOCAS. Patients could switch between doses at each subsequent visit. All UR episodes during the study, including the placebo run-in period, were recorded.
Results: Of 1334 men randomised, 1199 completed the 12 week double-blind NEPTUNE study and 1066 received ≥1 dose in the 40-week open-label NEPTUNE II study. Overall, 13 men developed UR while receiving combination therapy within the 52-week treatment period; 6 UR (3 AUR) while taking Soli 6 mg + TOCAS and 7 UR (5 AUR) while taking Soli 9 mg + TOCAS. In addition, 1 man developed AUR while taking TOCAS alone during the treatment period, and 4 men developed UR (3 AUR) during the placebo run-in period. Mean (range) prostate weight at baseline was similar for men who developed UR during the studies versus the total NEPTUNE population (44.2 g [15–74 g] vs 38.1 g [9–74 g], respectively). The duration of combination therapy until start of the UR varied from 6–347 days (median 77 days).
Conclusion: The incidence of urinary retention with FDC solifenacin + tamsulosin OCAS during long-term treatment up to 52 weeks in the NEPTUNE studies was low (1.1%) and within the range reported for spontaneous UR in the type of population studied.

UP.078

Long-Term Safety and Efficacy of a Fixed Dose Combination of Solifenacin + Tamsulosin OCAS™ in Men with Voiding and Storage LUTS: Results from the NEPTUNE II Open Label Extension Study

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Introduction and Objectives: The aim of the NEPTUNE II study was to investigate the long-term safety and efficacy of a fixed-dose combination (FDC) of solifenacin (Soli) and the oral controlled absorption system (OCAS™) formulation of tamsulosin (TOCAS) in men with lower urinary tract symptoms (LUTS) who had both voiding and storage symptoms.
Materials and Methods: NEPTUNE II was a 40-week, open-label, flexible-dosing, phase 3 safety study. Patients who completed 12 weeks of double-blind treatment within the NEPTUNE study were eligible for inclusion. Patients received FDC Soli 6 mg + TOCAS 0.4 mg for 4 weeks, then FDC Soli 6 mg or 9 mg + TOCAS for 36 weeks. Patients could request to switch doses at 3-month intervals. Data from the NEPTUNE and NEPTUNE II studies were combined to cover a 52-week period. Primary efficacy endpoints were changes in total IPSS (International Prostate Symptom Score) and TUFS (total urgency and frequency score; sum of the patients perception of intensity of urgency scale [PPIUS] score averaged over 3 days) from baseline to end of treatment. Adverse events occurring during FDC treatment are also reported.
Results: Of 1067 patients enrolled in NEPTUNE II, 1066 received ≥1 dose of study medication. Changes in total IPSS and TUFS observed in the 12-week double-blind NEPTUNE study were maintained until the end of the open-label extension study, with mean (SD) reductions of 9.0 (5.69) and 10.1 (9.23) points from baseline to end of treatment. Mean (SD) IPSS storage and voiding subscores were reduced by 4.3 (2.88) and 4.7 (4.09) points from baseline to end of treatment. Mean (SD) number of micturitions and urgency episodes (PPIUS 3-4) per 24 h were reduced by 2.5 (2.37) and 3.1 (3.45) from baseline to end of study. Treatment-emergent adverse events (TEAEs) were reported in 499 (46.8%) of patients who participated in NEPTUNE II; these were considered to be drug-related in 255 (23.9%) patients. The most common TEAEs were dry mouth and constipation.
Conclusion: Long-term treatment with FDC Soli 6 or 9 mg + TOCAS 0.4 mg was efficacious and well tolerated in men with voiding and storage LUTS.

UP.079

Regional Difference in IPSS, PV, and PSA in Korean Male Patients with LUTS

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Introduction and Objectives: Lower urinary tract symptom (LUTS) is a common symptom in middle-aged men. Prostate volume (PV) is an important predictor of benign prostatic hyperplasia (BPH) progression. Prostate specific antigen (PSA) is a reliable factor predicting PV in men suffering from LUTS. This study aimed to investigate regional difference in international prostate symptom score (IPSS), PV, and PSA in men with LUTS.
Materials and Methods: The study was conducted on 36,632 male patients aged 40~99 years who were suffering from LUTS from 2001 to 2010. The baseline PV and PSA were defined using standard description. In addition, the IPSS and quality of life (QoL) were collected via an interview. Data used in this study were collected from patients with PV ≤ 200ml and baseline PSA = 0-10ng/ml. Previous history of prostatic surgery and status other than prostate cancer and BPH were excluded from the baseline data. As for discrimination of urban and rural areas, city or higher administrative areas were assigned to the urban group, whereas Eup, Myeon, and Ri were assigned to the rural group based on patient's address.
Results: A total of 35,797 patients were analyzed. The patients had mean age 69.7± 8.3years, mean baseline PV 29.9±13.8ml, mean PSA 1.47±1.5ng/ml, and mean IPSS 15.4± 8.4. The patients consisted of 25,967 patients living in the urban areas and 9,830 patients living in the rural areas. The mean age of the urban and rural groups were shown to be 69.12±8.8 years and 70.42±9.8 years, respectively, which showed a significant difference ($p < 0.05$). The PSA was shown to be 2.62±10.2ng/ml in the urban group and 2.11±9.06ng/ml in the rural

group, which showed a significant difference ($p < 0.05$). The PV was shown to be 29.86±14.6ml and 30.35±15.9ml in the urban and rural groups, respectively, which showed a significant difference ($p < 0.05$). The IPSS and QOL were significantly higher in the rural group than in the urban group ($p < 0.05$). When the body mass index (BMI) was measured in the 931 patients of the urban group and 5,235 patients of the rural group, it was shown to be 31.32 and 24.41 in the urban and rural groups, respectively, which showed that it was significantly higher in the urban group than in the rural group.
Conclusion: Compared to the rural group, the urban group had the increased PSA but decreased PV. This result is likely to be attributable to the fact that the PSA increased rather than prostatic size by obesity. Thus, it is recommended to treat LUTS in a clinical practice, considering the results of this study.

UP.080
Evaluation of Serum Prostate-specific Antigen for Prediction of Prostate Volume and Lower Urinary Tract Symptoms in Asian Men within Community-based Cohort: A Large-scale Screening Study
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Introduction and Objectives: The relationship between prostate specific antigen (PSA) and prostate volume (PV) has been examined frequently in men with benign prostatic hyperplasia (BPH). In this report we assess the ability of PSA to predict PV and lower urinary tract symptoms represented by the international prostate symptom score (IPSS).
Materials and Methods: After obtaining institutional review board approval, a total of 34,857 men who first enrolled in the Korean Prostate Health Council Screening Program from January 2001 to December 2011 were included in this study. Patients with a serum PSA level of > 10 ng/ml or were aged < 40 years were excluded. The predictive values of PSA for estimating PV and IPSS were accessed based on the receiver operating characteristics-derived area under the curve (AUC).
Results: The mean prostate volume was 29.9 ml. The mean PSA level was 1.49 ng/ml, and the mean IPSS was 15.4. Of all 34,857 men analyzed, 51.3% had a PSA level of 0-1.0 ng/ml, 26.0% a PSA of 1.0-2.0 ng/ml, and 20.8% a PSA > 2 ng/ml. A significant relationship was shown between PSA and PV ($p < 0.001$), the IPSS and PSA were also significantly correlated after controlling for age ($p < 0.001$). The AUCs of PSA for predicting PV >20 ml, >25 ml and >35 ml were 0.722, 0.728 and 0.779, respectively. The AUCs of PSA for predicting IPSS >7, >13 and >19 were 0.548, 0.536 and 0.537, respectively.
Conclusion: Our results showed that PSA levels not only have a strong correlation with PV but that they are also a strong predictor of PV in a large-scale Korean screening cohort. Although PSA also had a significant correlation with IPSS, the correlation power was weak, and the predictive value for IPSSs above the cut-off levels was not excellent.

UP.081
Four-year Progression of Lower Urinary Tract Symptoms among Men in the California Men's Health Study
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Introduction and Objectives: While a significant proportion of aging men suffer from lower urinary tract symptoms (LUTS), the burden of incident LUTS and the rate of symptom progression over time remains poorly characterized. Therefore, the goal of this study was to evaluate the 4 year progression of LUTS among a multi-ethnic population of aging men.
Materials and Methods: As part of the California Men's Health Study, 39,222 men ages 45-69 years old from the Southern California Kaiser Permanente Health plan were surveyed in 2002-2003 and again in 2006-2007. Men without a diagnosis of benign prostatic hyperplasia who did not receive treatment for lower urinary tract symptoms prior to baseline in 2002 and who completed the follow-up questionnaire (N=19,505) were included. Progression in symptoms was defined as either a 4 point or greater increase in IPSS score, initiation of medications or use of surgery to treat LUTS.
Results: Symptom progression was greatest among those with the fewest symptoms at baseline, as 43.3% of men who reported none/mild symptoms experienced progression at 4 years, followed by those with severe symptoms (41.6%) and finally those with moderate symptoms (28.8%). Men who experienced symptom progression had a 4-fold greater odds of having a diagnosis of BPH during follow-up (OR: 4.35, 95% CI: 4.00-4.74) and a 2-fold greater odds of having a urology visit (OR: 1.80, 95% CI: 1.68-1.93) between 2002 and 2006 when compared to men who did not experience symptom progression during follow-up. After adjusting for age, race, Charlson comorbidity index and smoking, men with moderate symptoms were 50% less likely to experience progression (OR: 0.51, 95%CI: 0.48-0.55) and when compared to men with none/mild symptoms at baseline.
Conclusion: These data demonstrate that in this population, the proportion of men demonstrating progression of LUTS in four years was sizeable and greatest among men with none or mild symptoms at baseline. While some of this could be due to regression to the mean and ceiling effects, these men who have not been previously treated for BPH may prove to be good candidates for a self-management plan.

UP.082
Change of Urinary, Sexual, and Bowel Function after Holmium Laser Enucleation of the Prostate (HoLEP) for Benign Prostatic Hyperplasia
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Introduction and Objectives: We investigated change of urinary, sexual, and bowel function before and after holmium laser enucleation of the prostate (HoLEP) for patients with benign prostatic hyperplasia (BPH).
Materials and Methods: Seventy-eight out of 210 BPH patients performed HoLEP between October 2007 and September 2010 in our institute were complete evaluated before the treatment and again at 3, 6 and 12 months post treatment by International Prostate Symptom Score (IPSS), International Index of Erectile Function 5 (IIEF-5), sexual as well as bowel function and bother questionnaire of UCLA Prostate Cancer Index (UCLA PCI).
Results: The mean age of the patients was 71 years (range 56-79 years). The mean prostate specimen weight was 33.6 grams with a range of 8 to 88 grams. The mean IPSS score improved from 21.3 to 7.81 at 3 months ($p<0.01$), to 6.27 at 6 months ($p<0.01$) and to 6.31 at 12 months ($p<0.01$). The mean UCLA PCI of urinary function was 71.4 to 66.0 at 3 months ($p=0.09$), and to 79.2 at 12 months ($p<0.01$). The mean UCLA PCI of urinary bother improved from 55.4

to 26.0 at 3 months (p<0.01), to 19.2 at 6 months (p<0.01) and to 17.0 at 12 months (p<0.01). The mean IIEF-5 score significantly decreased from 7.88 to 6.07 at 12 months (p=0.03). The mean UCLA PCI of sexual function was 26.8 to 22.7 at 3 months (p=0.22), to 25.9 at 6 months (p=0.39) and to 24.4 at 12 months (p=0.60). The mean sexual bother was 73.6 to 67.4 at 3 months (p=0.20), to 71.8 at 6 months (p=0.38) and to 71.0 at 12 months (p=0.08). The mean bowel function was 63.6 to 64.0 at 3 months (p=0.40), to 66.0 at 6 months (p=0.26) and to 66.4 at 12 months (P=0.30), and bowel bother was 21.2 to 12.5 at 3 months (p=0.07), to 12.5 at 6 months (p=0.09), and to 18.9 at 12 months (p=0.15).
Conclusion: HoLEP for BPH patients demonstrated significant improvement in sexual functions as well as LUTS. However, HoLEP did not affect the bowel function of patients with BPH.

UP.083
Quality of Life, Stress and Anxiety Due to Lower Urinary Tract Symptom
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Introduction and Objectives: Lower urinary tract symptom (LUTS) with bladder outlet obstruction (BOO) makes difficulties of life, therefore affects quality of life (QoL), stress and anxiety. We studied which factors of LUTS have relation with QoL, stress and anxiety.
Materials and Methods: We retrospectively reviewed 118 males with LUTS. We checked prostate volume, maximum uroflow, PSA, IPSS, eight questions for stress and forty questions for anxiety. We analyzed each factors with QoL, stress and anxiety.
Results: Average age was 67.3 years old. Thirty-three males (28%) have medications for LUTS. QoL is only a significant factor about stress in simple correlation analysis. (p=0.039) but in multi-variate regression analysis, there is no significant. In LUTS medication males, stress is not related with each factor, but anxiety is only related in multi-variate analysis. QoL is not related with each factor. In no medication male, QoL is related with nocturia and maximum of uroflow in multi-variate analysis.
Conclusion: Stress and anxiety are no differences males of LUTS with any medication. But QoL is better in medication male. No medication male have concerned about nocturia and weak urine stream.

UP.084
'Sling Your Hook': Day-case Transobturator Tape for Stress Urinary Incontinence
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Introduction and Objectives: A total of 34% of females in UK suffer with stress urinary incontinence (SUI). This costs the NHS £117 million per year and has a hugely negative impact on quality of life. With mid-urethral slings taking off as effective surgical techniques, we evaluate the safety of transobturator tapes (TOT) as day-case procedures.
Materials and Methods: We retrospectively reviewed females undergoing a Monarc transobturator tape at our institution from March 2007 - December 2012. Patients were separated into group A: 2010-2012, group B: 2007 - 2009. Rigid cystoscopy was performed prior to catheterization and the outside-in technique used. Catheter removal was two hours post procedure. Vaginal packs were not inserted.
Results: A total of 161 TOTs were performed by a single supervising surgeon, n=112 in group A and n=49 in group B; 87.8% were performed as day-case from 2010. Continence rates of 77.6% were achieved; 3.2% required further procedure and 2.1% failed. Two patients failed post-op TWOC. One procedure was abandoned due to bladder injury. Three patients were re-admitted for post-operative pain. Three patients returned in retention.
Conclusion: TOTs can be effectively and safely performed as day-case procedures. Re-admission rate is low. Urinary retention tends not to occur immediately and therefore would not be prevented by overnight admission. Continence rates are comparable to literature.

UP.085
A Self-Tailored Polypropylene Mesh for the Treatment of Stress Urinary Incontinence and Vaginal Prolapse
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Introduction and Objectives: To present a technique for the management of stress urinary incontinence and vaginal prolapse, using a self-tailored polypropylene mesh.
Materials and Methods: For economic reason we used a polypropylene monofilament mesh of 15/15 cm to fashion a transobturator tape for the treatment of stress urinary incontinence and cystocele mesh for cystocele synthetic repair. For the sub-urethral sling, a tape of 1 cm large and 15 cm long is harvested from the polypropylene mesh. A vaginal incision under the mid-urethra is performed and then the mesh is implanted with the transobturator outside-in technique. The cystocele mesh is tailored from the remaining 14/15 cm polypropylene mesh, with 2 or 4 arms. A transversal vaginal incision is performed 1 cm above the cervix. The vaginal wall is dissected from the bladder. The cystocele mesh is placed through the vaginal incision and the arms are placed with the transobturator outside-in technique.
Results: The use of a self-tailored polypropylene mesh as a sub-urethral sling for urinary incontinence was possibly. In addition, it can be used for the transobturator cystocele synthetic repair. A 15/15 cm mesh was sufficient for both repairs. No infectious complication or mesh erosion was noted. The great benefit of this self-tailored mesh is the economic gain since it is at least 6-times cheaper than the manufactured ones. Moreover, in this case one single mesh is used instead of 2, to treat both pathologies.
Conclusion: The use of a self-tailored mesh is possible, and safe for the transobturator repair of stress urinary incontinence and cystocele synthetic repair. In addition it has a real economic benefit compared to industrial meshes especially in low socioeconomic level countries.

UP.086
Evaluation of TVM Surgery Using Bladder 3D-CT Imaging
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Introduction and Objectives: Ultrasonography, MRI, chain cystography, and other methods have been used for preoperative examinations of patients scheduled to undergo tension-free vaginal

mesh (TVM) surgery for pelvic organ prolapse. Those have advantages and disadvantages in regard to the information provided, level of invasion revealed, and cost, as well as other factors. We introduced TVM surgery in our department in September 2007 and evaluated 37 cases using bladder 3D-CT imaging.
Materials and Methods: Following chain cystography performed as a preoperative examination, each patient was moved to a CT examination room with contrast media retained in the bladder. CT was performed with abdominal muscle pressure provided by use of a belt and 3D-CT images were obtained. In addition, after obtaining informed consent from each patient, we obtained and evaluated 3D-CT images using a similar method.
Results: The median patient age was 72 years old (range, 46-83 years). Of 37 patients studied, 32 had a cystocele (including uterine prolapse) and 5 a rectocele. Classification by POP-Q staging system indicated that 11 were stage II, 22 were stage III and 4 were stage IV. The obtained 3D-CT images were able to be viewed in both vertical and horizontal directions, thus we were able to visualize the vesical form in a virtual manner, and understand the relationship between the bladder and pelvic position in three dimensions. In addition, we could obtain more information by combining the 3D-CT results with those obtained in a chain cystography examination, and better understand the relationships among the internal organs. This method is less expensive than an MRI examination. On the other hand, the scanning is limited to a supine position and it is difficult to obtain images of the mesh postoperatively. All cases classified higher than POP-Q stage III had useful findings obtained before and after the operation, while only 1 classified as POP-Q stage II showed benefit from the examination.
Conclusion: In patients classified at a high stage, bladder 3D-CT imaging is very useful method as for evaluating pelvic organ prolapse. On the other hand, in cases of low stage, it is difficult to evaluate it using 3D-CT alone, so our improved method that included use of a new CT scanning by sitting position is introduced.

UP.087
A Novel Technique for Anterior Vaginal Wall Prolapse Repair: Anterior Vaginal Wall Darn, One-Year Results
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Introduction and Objectives: The aim of the present study was to describe a new surgical repair technique anterior vaginal wall darn (AVWD) which has not been used before, to repair anterior vaginal wall prolapse.
Materials and Methods: Twenty-five women with anterior vaginal wall prolapse were operated on with a new technique. The patients ranged in prolapse of the anterior vaginal wall. In the AVWD, a midline incision was made beginning 1 cm proximal to the aspect of the external urethral meatus and extending to the vaginal apex. The anterior vaginal wall was detached from the bladder until the arcus tendineus fascia pelvis (ATFP) was exposed. Continuous locking 2/0 polypropylene suture was placed to the ATFP beginning from the distal and extending to the proximal aspect. The running sutures were turned back from the cardinal ligaments without being tied and were extended continuously to the distal aspect to form a darn. The ends of the sutures were tied together. The traumatized vaginal mucosa was trimmed and the mucosa was closed.
Results: The median operating time was 43 minutes (the range was 30 to 45 minutes), the average hospital stay was two days (the range was one to two days), and the average time to void was 1.8 days (the range 1–2 days). One year after the surgery all patients were undertook a complete evaluation. According to the early post-operation results, all patients were satisfied with the operation. No vaginal mucosal erosion or any other complications were detected. Pre-operation and early post-operation evaluations of the patients were conducted and summarized in Table 1
Conclusion: Our short-term results suggested that patients with grade II-III anterior vaginal wall prolapsus might be treated successfully with the AVWD method.

UP.088
Management of Post-Gynecological Surgical Genitourinary Fistulas: Sapporo City General Hospital Experience
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Introduction and Objectives: Genitourinary fistulas (GUF), which sometimes occurred after gynecological surgery are one of the most medically and socially devastating conditions for a patient. We reviewed 9 female genitourinary fistulas who underwent surgical repair at our hospital.
Materials and Methods: We repaired female GUF at our hospital and reviewed the outcome. From 2003 to 2012, nine post-gynecological surgical GUF patients (seven are vesico-vaginal fistula, two are uretero-vaginal fistula) were enrolled in this study. Two of them were failed previous repair. We discuss about their background (the duration of urinary incontinence, type of causal gynecological surgery), initial diagnosis, method of repair, postoperative complications and surgical outcomes.
Results: Duration of urinary incontinence was ranged one month to 28 years (median: 6 months). Causal gynecological surgeries were included 5 radical

UP.087, Table 1. POP-Q incontinence-related quality values.

	Before AVWD surgery	After AVWD surgery	P
POP-Q measurement Aa (cm)	1.5 ± 1.1	–2.1 ± 0.9	<0.001
POP-Q measurement Ba (cm)	2.3 ± 1.6	–1.8 ± 1.1	<0.001
POP-Q measurement Ap (cm)	–2 ± 0.6	–2 ± 0.7	0.18
POP-Q measurement Bp (cm)	–2.57 ± 0.4	–2.6 ± 0.5	0.16
POP-Q measurement TVL (cm)	7.82-0.32	7.95-0.53	0.54
POP-Q measurement C (cm)	–5.3 ± 1.5	–6.4 ± 1.3	0.041
UDI-6	8.9 ± 3.7	1.7 ± 1.1	<0.001
IIQ-7	11.8 ± 6.5	0.9 ± 0.6	<0.001
Q-TT	24.6 ± 5.1	8.3 ± 10.3	<0.001
Pad Count (d)	4.2 ± 1.4	0.4 ± 0.8	<0.001
Residual urine volume (mL)	55.6 ± 10.6	47.4 ± 10.3	0.032

hysterectomies for uterine cancer, 3 hysterectomies for uterine myoma (one case was done by laparoscopically) and 1 caesarian section. Seven cases were initially diagnosed as genitourinary fistulas but the other two cases were stress urinary incontinence. Four vesico-vaginal fistula patients were treated with transvaginal interposition of labial fat pad. On the other hand, 3 cases were repaired using omental flap or pedicle muscle flap transvesically. Two uretero-vaginal fistula patients underwent uretero-vesical neostomy. There is no major post-operative complication except one wound herniation. All patients could have been enjoying dry lives after repair surgeries.
Conclusion: Genitourinary fistula is surgically correctable without major complication. Tissue interpositions are feasible procedures to correct fistulas. The strategy for the successful outcome should be considered.

UP.089
Clinical Evaluation of 7 Cases of Vesicovaginal Fistula
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Introduction and Objectives: The development of vesicovaginal fistula is not a common disease, but it is devastating and has profound effects on both the physical and psychological health of the patient. In addition to this, it is difficult to diagnose, treat and to cure. We report the 7 cases of vesicovaginal fistula which we have experience in our medical center and intend to reveal the clinical feature.
Materials and Methods: Over the last 10 years (from January 2002 to April 2012) in our medical center we have treated and evaluated 7 cases of vasicovaginal fistula.
Results: In all 7 cases' chief complaint was incontinence. Also, in all cases surgery was performed. In three of the cases, total hysterectomy was performed due to cancer. In two of those cases radiation therapy was performed after surgery. In the other four cases surgery was performed due to a benign tumor and the effect of an abortion. Of all 7 cases, two cases also included ureterovaginal fistula. One case included rectovaginal fistula. The terms of each patient varied. The two cases which radiation therapy was the cause, vesicovarginal fistula occur 20 years and 35 years after radiation therapy. The other five cases were from 10 days to 3 months after their surgery. In five of the cases, surgery was performed to cure vesicovaginal fistula. In the other two patient did not have surgical operation performed and instead received conservative treatment. Of all those cases, two cases death due to pelvic inflammation, in both of those radiation therapy was performed.
Conclusion: Vesicovarginal fistula after radiation therapy is high risk case that can cause inflammation of the pelvis. Because of this, we must diagnose early and perform the suitably therapy.

UP.090
Bringing New Light and Scope to Urology – The Karl Storz-Harold Hopkins Story
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Introduction and Objectives: The cystoscope has undergone several changes over 2 centuries, but none so dramatic as that of Harold Hopkins, a British Physicist who greatly improved image transmission with his glass-rod-lens, as well as Karl Storz, a German precision instrument-maker who not only invested in Hopkins's work but also introduced 'cold light' to Hopkins's scope. This poster explores history of these two brilliant innovators.
Materials and Methods: Detailed search on history of Karl Storz /Harold Hopkins using Pubmed and Google. Further information obtained by correspondence with families and colleagues of Storz and Hopkins.
Results: Harold Hopkins was born in England in 1918 to family of bakers. Naturally gifted in languages, he won a scholarship and was discouraged in pursuing sciences. Thankfully he chose sciences (physics). Karl Storz was born in 1911 in Germany to a family of instrument-makers. He quickly got interested in instrument-making. After school, he sought more experience in instrument-making. After war, Hopkins pursued career in Optical physics and by chance came into contact with a London gastroenterologist and designed the first flexible endoscope in the 1950's. Unfortunately his work was not supported locally and ended up being developed in USA by South African gastroenterologist, Hirschowitz. Meanwhile Liverpool urologist, James Gow, approached Hopkins to improve image transmission for bladder photography. Initially refusing, Hopkins eventually agreed, and by accident discovered having long glass-rod-lens and thin air-lenses in contrast to the older scopes improved the image transmission several-fold. He presented his work and Gow's pictures at the SIU meeting in Rio de Janeiro in 1961 but failed to get Western investors. In 1960, Storz saw Hirschowitz's flexible gastroscope and instantly utilised same principle for light transmission from external source, bringing in 'cold light'. In 1965, Storz was introduced to Hopkins's scope and offered to support him. They presented their winning combination at the SIU in Munich in 1967, and forever changed the world of endourology.
Conclusion: Hopkins's and Storz's contibution to urology and medicine has been one of the biggest achievements in the history of modern urology. They showcased their work at SIU meetings to a truly global audience.

UP.091
Clinical Significance and Natural History of Simple Renal Cyst
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Introduction and Objectives: Simple renal cyst is little known concerning their development and natural history. We investigated the characteristics of simple renal cysts and risk factors for their development as well as sequential changes in their size in individuals.
Materials and Methods: Data were collected on 10261 healthy employees of Korea Electric Power Corporation aged 20-65 years who participated in a multiphase health screening programme at our institution in 2002. Ultrasonography was used for diagnosing renal cysts. Multiloculted cysts with irregular and/or segmental wall were excluded from this study. Logistic analysis was used to examine various risk factors for renal cyst, including sex, age, BMI, serum creatinine, estimated GFR, proteinuria, microscopic hematuria, hypertension, hypercholesterolemia, diabetes mellitus. In 65 patients with yearly follow-up until 2012, the sequential changes in the size of the cysts were followed for 10 years.
Results: The prevalence of renal cysts was 5.43%, ranging from 1.85% for patients in aged < 40 years, to 12.4% of those aged > 60 years. Cysts were detected in 5.95% of men and 2.03% of women ($P < 0.001$). The mean serum creatinine level

was 1.10 mg/dL in those with cysts and 1.06 mg/dL in those without ($P < 0.001$); the respective mean systolic blood pressure was 121 and 118 mmHg ($P < 0.001$) and mean diastolic blood pressure was 79 and 77 mmHg ($P < 0.001$). Multivariate logistic regression analysis showed that age ($P<0.001$), sex ($P=0.001$), BMI ($p<0.001$), diastolic blood pressure ($P=0.048$), proteinuria ($P=0.011$), hematuria ($P<0.001$), estimated GFR ($P<0.001$), and hypertension ($P< 0.001$) had a significant influence on the occurrence of renal cysts. The average size increase in simple cysts (n=65) were 1.2 mm per year. Renal neoplasms originating from simple renal cysts did not appear during the follow-up period of 10 years. On linear regression analyses, age ($P <0.0001$) and laterality ($P =0.003$) were significant predictors of the size increase.
Conclusion: Age, male gender, BMI, renal dysfunction, proteinuria, hematuria, and hypertension were associated with presence of simple renal cysts. The simple renal cysts continued to increase in size over 10 years but did not tend to progress aggressive things.

UP.092
The Evolution of the Practice of Uroscopy: From Taste to Dip of the Urine
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Introduction and Objectives: Uroscopy was a historic practice of utilising a urine sample for diagnostic purposes, having its origins in antiquity. We explore the development and landmarks in uroscopy from ancient times to the modern era of medicine.
Materials and Methods: A literature review on uroscopy was performed through medline, pubmed and google scholar.
Results: Historically the practice of uroscopy has been present in all the great ancient civilisations including the Egyptian, Greeko-Roman, Byzantine, Babylon, Arab and Indian empires. The variables examined within a urine sample were colour, cloudiness, smell, sedimentation, presence of pus and blood and taste! Hippocrates the father of modern medicine correlated the change in the smell of a urine sample from a patient with a febrile illness. Theophilus recorded 17 different colour changes exhibited in urine and linked them to a range of maladies and their prognosis. Urine was believed to have mystical properties and uromancy evolved from uroscopy. This method of divination involved the reading of bubbles in a urine pot not only to assess an individual's health status but also to predict their future. This method of uroscopy continued throughout the medieval and renascence period into the 17th century when urine microscopy gained a foothold. In the mid-19th century urine microscopy was standard practice identifying various renal maladies by the shapes and sizes casts and crystals. The indispensible practice of urine dipstick testing currently in vogue was first performed in 1850 by the Parisian physician Jules Maumene for the detection of glycosuria. Since then dipstick testing has evolved to give us a spot assessment of various renal, metabolic and hepatic disorders aiding in rapid diagnosis and monitoring.
Conclusion: Uroscopy, a practice that despite starting in ancient times has evolved through the ages. The dipstick has offered bedside assessment and has spared us from tasting and smelling a patient's urine sample. This would not have been possible if we had not recognized the kidney as a window of the person's wellbeing and urine as the mirror of visualization.

UP.093
Satyriasis: The Disease with the Legendary Past
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Introduction and Objectives: To present the past of a diachronically present disease, known as satyriasis in antiquity and hyper-sexuality (in males) or nymphomania (in females) in our days, having as main feature its excessive and uncontrollable sexual desire and behavior.
Materials and Methods: The review of the Greek mythology regarding the Satyrs and the investigation in art and literature (classical Greek comedy), as well as the textual evidence in medical literature of antiquity and early Byzantine compilers.
Results: The Satyrs' physical appearance, as illustrated in vase-painting is as half man half goat and having perpetual erections. They accompanied the god Dionysus in his orgiastic activities, playing the role of small local deities in the more distant areas of the country, before their entrance to the Attic theater, where they gave their name to the satiric drama. Their prolonged ithyphallic state was identified with the disease of Satyriasis, first described in the work of the physician Aretaeus of Cappadocia (2nd c. AD), who supports that the sufferers cannot satisfy their sexual permanent desire, even after multiple and intense intercourses, showing behavioral problems and psychic disturbances. Soranus of Ephesus (2nd c. AD) adds his experience that Satyriasis can also happen to women. Additionally, Galen of Peramum (2nd c AD), is discriminating Satyriasis from Priapism based on the existence or lack of desire for the latter. These ideas survived through the great early Byzantine (4th-7th c.) medical compilations. Contemporary Psychologists and Sexologists attribute the excessive sexuality to extreme narcissism, addiction, psycho-somatic causes (parallel headaches) or biological roots, such as bipolar disease.
Conclusion: In antiquity, the insatiable appetite for sex was attributed to legendary admirable creatures. Reality is different, as sufferers consider it a source of shame preventing them living a life free of passions.

UP.094
Phallic Amulets in Ancient Greek and Roman Era
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Introduction and Objectives: To present the various aspects of the phallic symbol, even as a protective amulet against the enemy forces and the "evil eye".
Materials and Methods: The investigation of a great number of objects from several archaeological museums emphasizing on those of Italy and Greece, and the review of the literature of the ancient Greek and Roman world.
Results: Representations of a supernatural phallus are common in both, art and literature of the classic Greek and the Roman world. Painted on walls and vases, found as statues, amulets, tripods and drinking cups, the exaggerated phallic image serves as an apotropaic symbol protecting the user, the passerby, the wearer from outside evil. This material, a textual evidence of a private imagery in public view, reveals its social function. Furthermore, the genital organ with supernatural

dimensions has always been connected with fertility rituals and religious ceremonies of phallic worship, offering protection to agriculture and flocks. Pendants of bronze with one or more phalli were born by solders at war expeditions, by citizens and children. Some examples had wings and others bells attached to them, as it was a common belief that noise scared away malicious human and demon forces. As amulets, the phalli appear especially potent when rendered to organic materials (bone, ivory or wood) due to their link with vitality.
Conclusion: Continuing a pre-historic tradition, the phallic amulets of the ancient Greek and Roman era reinforce the idea of the male genitals power in the fields of regeneration and fertilization, expanding them to individual protection from any demonic or human evil influence.

UP.095
Farinelli, Velluti, Moreschi: The Most Famous Castrati Singers
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Introduction and Objectives: Castrati first appeared in the late sixteenth century in Spain, but the practice of castration to obtain fine voices took root in Italy, where it remained until the mid-nineteenth century. The castrati with the finest voices became operatic idols.
Materials and Methods: A historical review regarding the lives of the three most famous castrati singers.
Results: The most famous castrato singer was Carlo Broschi (1705-1782), known as Farinelli. His unique voice of great beauty purity raised him to super star status. He was famous for his ability to sing two hundred and fifty notes with a single breath and to sustain a note for more than a minute. Giovanni Battista Velluti (1780-1861) was the last operatic castrato, characterized for his dazzling coloratura technique and vocal prowess. He featured in the last major opera that had a castrato singer, Meyerbeer's "Il Crociato in Egitto". Alessandro Moreschi (1858-1922) was the last castrato in the Vatican, whose voice was powerful, pure and clear as crystal. Moreschi uniquely made several gramophone recordings of his voice, providing us with our only direct evidence of the sound of a castrato's singing voice.
Conclusion: Castrated for art, the beauty, range and flexibility of their voices raised them to mythical status.

UP.096
Historical Review of the Treatment of Advanced Prostate Cancer
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Introduction and Objectives: Cancer of the prostate is recognized as one of the principal medical problems facing the male population. Various treatments and methods for prostate cancer have evolved over the recent decades.
Materials and Methods: Review of the medical literature regarding the history of the treatment for advanced prostate cancer.
Results: In the early 1940s, there were no effective treatments for prostate cancer other than pain management. Dr Charles Huggins (1901-1997) and his colleagues started to investigate the mechanisms which led to the spread of prostate cancer. By recognizing the role of testosterone in stimulating the growth of prostate and prostate cancer cells, they became the first group of physicians to treat patients with prostate cancer by surgical removing the testicles (orchiectomy). The understanding of the role of the hypothalamic-pituitary-adrenal axis in the growth of the prostate and the prostate cancer led to the discovery and use of female sex hormones or estrogens such as diethylstilbestrol (DES). For over 30 years, the two standard forms of treatment for patients with advanced prostate cancer were castration or DES. The association of DES with important cardiovascular side effects led to the discovery of LHRH agonists, which rapidly replaced surgical castration and high doses of estrogens since 1980. Soon after the discovery of LHRH agonists, Dr. Ferdinand Labrie and his group added a pure antiandrogen to medical castration. This treatment, known as combined androgen blockade, is now the standard treatment of advanced prostate cancer around the world.
Conclusion: The theories, the observations and understanding of the biochemical mechanisms which are involved in the growth of prostate cancer, led to a successful treatment which is used till today and with significant survival benefit.

UP.097
Does Spiral CT Overstimates the Size of Stones?
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Introduction and Objectives: Prospective and retrospective clinical study aiming at evaluating the accuracy of CT scans in determination of the size of stones.
Materials and Methods: The study was conducted at Kasr Elainy hospital on 60 cases whose stones were extracted as a whole either by open surgery or endoscopically. The stone was measured in 3 dimensions and the volume was calculated (both the recovered stone as well as in CT scans).
Results: CT overestimated the size of stones in 49 cases (about 82%) with mean 20% error in estimating the size while it underestimated the size in the rest of cases. Three of the stones were found to be shreds of infection rather than true stones.
Conclusion: Although CT scan is the mainstay for diagnosis of calculi, it overestimates the size of stones and thus treatment strategies.

UP.098
18F-Fluorocholine (FCH) PET/CT for Prostate Cancer Imaging – Comparison of our Cohort and Literature Data
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Introduction and Objectives: We review the 18F-fluorocholine (FCH) PET/CT imaging in patients with prostate cancer and compare our results with literature data.
Materials and Methods: Between November 2011 and February 2013, a total of 76 patients with prostate cancer (PCa) underwent 18F-FCH PET/CT. Mean age was 66.7 ± 8.7 (44-85) years. Our indications were: 12 times evaluation of local and nodal disease before radical prostatectomy in intermediate- or high- risk PCa (results were compared with post-operative histological specimens processed by whole-mount section technique), 20 times biochemical recurrence after treatment with curative treatment intention,

8 times in radiotherapy planned, 14 times in castrate- resistant disease or treatment monitoring of hormone therapy, 14times evaluation of bone disease or elevated PSA after repeated negative prostate biopsy, 8 times elevated PSA with suspicion on prostate cancer.
Results: Mean PSA before radical prostatectomy was 21.2 ± 17.3 (4-56) ug/l. Preoperative FCH PET had: on a per- lobe basis sensitivity of 94%, specificity of 100%, positive predictive value (PPV) of 100 %, negative predictive value (NPV) of 50%; for extraprostatic spreading good sensitivity (100%), but poor PPV (25%); for lymph-node involvement poor both sensitivity and PPV; and itchanged therapy strategy in 18% of patients because of bone metastases. In PSA rising patients after primary therapy, recurrent prostate cancer was noted in 14/20 (70 %) patients, with positive findings in 7/7 (100%), 1/2 (50 %), 2/4 (50 %), and 4/7 (57 %) patients with PSA >4, >2–4, >0.5–2, and ≤0.5 ng/mL, respectively. FCH PET helped to define the cancer volume in radiotherapy planned patients. Patients with elevated PSA after repeated negative prostate biopsy and 18F-FCH focal up-take were biopsy confirmed only in 40% (2/5).
Conclusion: 18F-FCH PET/CT may be preoperatively useful in the evaluation of patients with high- risk prostate cancer and in detection of missed bone metastases. It may facilitate the re-staging in patients with biochemical recurrence and castrate- resistant disease. It helps to define the cancer volume in patients before focal radiotherapy escalation. More well-defined randomized prospective studies are needed.

UP.099
The Presence of Bulbourethral Glands in Anatomical Studies and Ultrasound Imaging
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Introduction and Objectives: The Cowper's (bulbourethral) glands despite the fact that they may be the source of pathologies, they have been pushed on to the sidelines of everyday urological practice. The lack of rules regarding the imaging of the glands makes a targeted biopsy impossible to perform, which may be important in terms of the suspected presence of PSA in them. It is thanks to this biopsy that, in addition to histological examination, the presence of the glands may be convincingly verified. The study aims at evaluating the ability to identify Cowper's glands in the course of ultrasound with reference to author's own anatomical studies on human corpses.
Materials and Methods: The first stage was the anatomical analysis. It involved the collection of 145 pelvis during postmortem examination of males aged 20 to 82. Then, the bulbourethral glands were dissected. The second stage included 55 transrectal Doppler ultrasound exams. The mean age of the men was 67. All patients underwent concomitant biopsies of the prostate or vesicourethral anastomosis due to PSA elevation. Furthermore, whenever the presence of Cowper's gland was identified, an additional biopsy of the glands and histologic analysis was performed.
Results: Own anatomical studies of the bulbourethral glands differ from the classical descriptions thereof. It was found that the described spherical structures were identified only in approximately 51.7% with the average size of 10.2mm. In the remaining subjects the glands were either vestigial or could not be identified. Medical imaging will prove unable to identify such a type of gland. The glands were detected in 50.9% of the males who had an ultrasound imaging performed, which is comparable to the results of postmortem examinations. In most of the cases (93%) the glands were paired. In 22 cases (78.6%), histological expertise confirmed of Cowper's glands, which is one evidence of their correct identification. The average size was 9.3mm.
Conclusion: Low sensitivity of ultrasound imaging of unaffected bulbourethral glands does not result from the imperfection of the method but rather from the lack of macroscopic forms of glands that—in half of the males—are invisible vestigials.

UP.100
Prostate Volume Measurement by TRUS: Comparison of Using Height Obtained by Transaxial and Midsagittal Scanning
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Introduction and Objectives: The purpose of this study was to compare prostate volume measured by TRUS between transaxial scanning and midsagittal scanning. Thus, we determined which method is more superior.
Materials and Methods: There were 588 patients who underwent TRUS for diagnosis of any diseases related with prostate from October 2012 to February 2013 included in this study. Mean age of all patients was 57.8 (38.0-87.0). When measuring prostate volume by TRUS, we conducted this two ways at the same time in all patients: using height obtained by transaxial scanning and those obtained by midsagittal scanning. Prostate volume was calculated by using ellipsoid formula (height × length × width × π/6). We analyzed the discrepancy of the volume and prevalence of clinical BPEs according to two methods.
Results: Prostate volume measured by TRUS, a paired t-test revealed significant difference between using height by obtained transaxial scanning and those by obtained midsagittal scanning in all patients (28.3±10.9g, 28.7±10.6g, respectively, p=0.002). However, there were no significant differences in the prevalence of prostate volume more than 20 grams (known BPE) between two methods by chi-square test (90.5% [532/588 persons], 91.2% [536/588 persons], respectively, p=0.762). Analyzing in the same way, there were no significant differences in the prevalence of prostate volume more than 30 grams (generally, high risk BPE) between two methods (31.6% [186/588 persons], 34.7% [204/588 persons], respectively, p=0.292).
Conclusion: Although prostate volume by TRUS was different according to methods measuring height on transaxial and midsagittal scanning, we suppose that there are no problems to diagnose clinically-used BPE by either of the two methods.

UP.101
Relationship between Intra-operative Prostatic Swelling during HIFU and Unsuccessful Ablation Assessed by Contrast MRI and Biopsy: Implication for Focal HIFU Therapy
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Introduction and Objectives: The size of a single focus of HIFU is only a few millimeters in diameter with a distinct margin between the treated focus and the adjacent untreated tissue. We recently reported that significant prostatic swelling and shift of the prostate occurs during HIFU. We hypothesize that unsuccessful treatment by

HIFU may be secondary to untreated gaps between adjacent HIFU foci caused by intra-operative prostatic swelling and shift. The objective of our study is to identify a possible relationship between the intra-operative prostatic swelling and unsuccessful ablation assessed by contrast MRI and post-operative biopsy.
Materials and Methods: Thirty-four patients with clinically localized prostate cancer (median age, 66; PSA, 7.7 ng/ml, and Gleason score 5/6/7, n=3/14/17) underwent whole gland HIFU followed by 3 monthly PSA, and mandatory systematic prostate biopsies at 6 months. Intra-operative prostatic swelling was quantified by computer-assisted 3D reconstructed prostate volumes based on intra-operative TRUS. Postoperative contrast MRI, obtained within 25 days after HIFU (median 10.5 days), was used to classify treatment success based on the size of residual enhanced areas within the prostate: class III, clinically significant enhanced area (defined as greater than 0.5ml in volume); class II, minor enhanced area (less than 0.5ml); and class I, completely unenhanced.
Results: Percent increase of prostate volume by documented prostatic swelling in class I (n=9), II (n=17), and III (n=8) were 5%, 18%, and 37%, respectively, ($p<0.001$), indicating that class III had significantly greater prostatic swelling. Median PSA nadir in class I, II, and III were 0.02ng/ml, 0.10ng/ml, and 0.63ng/ml ($p<0.002$), indicating that class III had a higher biochemical failure rate. Post-operative biopsy-proven residual cancer was found in only class III (26%) ($p<0.001$). Biochemical free survival rates were significantly different between the 3 MRI-classified groups (Log rand test, $p=0.007$).
Conclusion: We demonstrated a positive correlation between intra-operative prostatic swelling during HIFU and unsuccessful ablation, as assessed by contrast MRI and post-operative biopsy. Biochemical failure after HIFU correlated with larger enhanced areas as well as greater prostatic swelling. Intra-operative adjustment of the treatment focus according to intra-operative swelling during HIFU may have a significant impact for improving the success of targeted focal HIFU therapy.

UP.102
In Patients Who Underwent Radical Prostatectomy, the Pre-Operative 3-Tesla Magnetic Resonance Spectroscopy without Rectal Coil is Associated with High Specificity
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Introduction and Objectives: We evaluated the sensitivity (SN), specificity (SP), positive predictive value (PPV), and negative predictive value (NPV) of magnetic resonance spectroscopy (MRS) of the prostate for differentiation of cancer from healthy tissue in comparison to the pathology of radical prostatectomy (RP). We also evaluated if MRS could predict the upgrading of prostate cancer that occurs when comparing the prostate biopsy to the pathology of RP. We evaluated if MRS could predict the staging and positive surgical margins (PSMs).
Materials and Methods: A total of 36 patients underwent RP. They underwent pre-operative MRS with external surface coils and transrectal ultrasound-guided prostate biopsy. All MRS lesions suspicious for cancer were identified in 10 regions compatible with the pathology of RP.
Results: MRS was found generally to have: SN – 82%, SP – 42%, PPV – 56%, and NPV – 72% with Cohen's k of 0.24 ($p<0.112$). For the specific localization of the prostate cancer, the k score range for regional agreement between MRS and RP was 0.16 – 0.40. MRS didn't predict grading, staging or PSMs.
Conclusion: Our data suggests that MRS of the prostate provides a high specificity of the presence of cancer in specific regions of the prostate. However, it didn't predict staging or positive surgical margins.

UP.103
Acute Cystitis Symptom Score (ACSS): A New Self-Reporting Questionnaire to Assess Urinary Tract Infections and Differential Diagnosis
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Introduction and Objectives: Aim of our study was to develop a reliable and valid self-administered questionnaire to assess acute uncomplicated cystitis (AUC) symptoms in Uzbek and Russian speaking women with high rates of specificity and sensitivity.
Materials and Methods: Developed urinary symptoms and quality of life tool (USQOLAT) is self-administered questionnaire containing questions about 6 typical symptoms of AUC, ranged from most common to less. It also includes additional 4 questions which could help to differentiate AUC from other diseases with similar symptoms. Pilot and clinical tests of Uzbek and Russian versions of the tool were performed in 20 women with confirmed AUC. These women were then interviewed for revealing disadvantages of tool's appearance and design. After performing corrective action based on feedback, the final questionnaire was filled by 213 women with mean age 32 (ranged from 15 to 73), visited urologist's office.
Results: Sensitivity and specificity for Russian version of USQOLAT were 95.0% and 82.6% correspondingly; calculated test accuracy of the Russian version was 88.4%, power was 95%; reliability of Russian version of the tool was also good (Cronbach's alpha of 0.85, split-half reliability and Guttman split-half - 0.92, correlation between first and second half - 0.86). Similar results were obtained from analysis of Uzbek version of the test as follows: sensitivity and specificity - 92.7% and 86.3% respectively; test accuracy and power of the test were 89.3% and 92% correspondingly; reliability was also good (Cronbach's alpha of 0.85, split-half reliability and Guttman split-half - 0.9, correlation between first and second half - 0.82). Calculated sensitivity to change was significant: T level - 16.5 with Z-level of 5.8 at $p<0.001$. Scores of the test between main and control groups had statistically significant differences: Mean±SD 10.6±3.4 vs. 2.4±2.8 at p-level <0.001 for main and control groups respectively.
Conclusion: Developed tool for Uzbek and Russian speaking patients is highly reliable and valid with high values of specificity and sensitivity and sensitivity to change. Therefore this tool may be recommended for clinical practice and should be evaluated in different languages.

UP.104
BCGitis: A Purely Clinical Picture?
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Introduction and Objectives: The adjuvant intravesical instillation of Bacillus

Calmette-Guérin (BCG) is the gold standard in preventing recurrence of superficial bladder tumors and carcinoma in situ (CIS) according to the EAU Guidelines. Severe side effects in terms of a BCGitis are described in less than 5% of cases and a BCG sepsis in less than 0.5% of cases.
Materials and Methods: A 71-year-old patient presents with fever up to 39.8°C and poor general condition. A week earlier, a BCG instillation was performed after a cystoscopy and gross haematuria. Since then, he has been suffering from fever, increasing fatigue and voiding problems. Already earlier he had been treated with a 6-fold BCG instillation therapy because of recurrence of urothelial carcinoma of the bladder. Primarily, he had an acute cystitis with coagulase-negative Staphylococcus spp. In a situation with an unclear initial focus of infection and lack of detection of Mycobacterium bovis BCG in the blood cultures, we started a calculated antibiotic therapy with piperacillin-tazobactam. After this therapy mainly the pulmonary situation deteriorated. A thoracic CT showed a generalized pneumonitis with an incipient pulmonary fibrosis. Then we started - because of the clinical picture of a BCGitis - a tuberculostatic therapy (isoniazid, rifampicin, ethambutol). In the meantime an ARDS necessitated an intensive care therapy with medical monitoring and a tracheostomy. A marked improvement of general condition and pulmonary situation was reached in the course. The antimycobacterial therapy was administered for 6 months because of the severity of the initial clinical picture.
Results: BCGitis is caused by Mycobacterium bovis BCG entering the blood stream. Clinically, it presents as miliary tuberculosis. Early treatment with tuberculostatic drugs is indicated, even if no pathogen is detected because blood cultures as well as the latest PCR technologies show poor sensitivity in this context. According to the literature complications after BCG instillations often occur after a history of tuberculosis, if the instillation is performed early post-interventionally, and if gross hematuria or acute cystitis were present. BCG instillation should not be performed in such cases. As far as therapy of BCGitis is concerned, the literature names various options: 2-week therapy with quinolones, 6-month triple anti-mycobacterial therapy, etc. Since the complication is caused by a defined, industrially produced Mycobacterium bovis BCG, there is no drug resistance besides natural resistance against pyrazinamide. The attenuated bacterium can't persist in an immunocompetent patient; therefore we could also consider a short-term therapy.
Conclusion: BCGitis is a serious complication after instillation therapy. Usually, treatment is sufficient and successful even in severe cases. Still, if the above-mentioned risk factors or contraindications are observed, BCG instillation should be continued as a prophylaxis of recurrence in superficial bladder tumors and carcinoma in situ taking into account the encouraging available data of this therapy.

UP.105
Is There Any Difference in Juvenile Chronic Prostatitis Compared with Young Adult Patients?
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Introduction and Objectives: Chronic prostatitis was studied mainly in adult patients but there were only few reports about adolescent patients. The incidence of the disease in that age group is low but it needs appropriate attention and study. We studied of there is any clinical different characteristics of juvenile chronic prostatitis patients comparing with young adult patients.
Materials and Methods: We analyzed retrospectively 20 juvenile chronic pelvic pain syndrome (CPPS) patients under age 20 visited our out-patient department from August 2005 to April 2012. Control group was composed of 120 CPPS patients with age distribution of 20 to 39. Control age group was chosen to rule out benign prostatic hypertrophy effect. In all patients, NIH-CPSI questionnaire, urinalysis, expressed prostatic secretion (EPS) or semen analysis, transrectal prostate ultrasonography and prostate-specific antigen (PSA) was checked. Based on the EPS or semen analysis results, patients were divided as III-A or III-B CPPS. Clinical parameters of juvenile CPPS group was compared with young adult group. Statistical program was SPSS 12.0 for Windows and statistical methods were independent T-test and P-values less than 0.05 were regarded as significant.
Results: In the juvenile group, there was sexual contact history in 2(10%) patients and III-A was 11(55%), III-B was 9(45%). Age was 16.5±2.0 (12-19) for juvenile group and 32.8±5.0 (20-39) for control. PSA was 0.65±0.39 (0.20-1.30) for juvenile group and 1.22±0.48 (0.25-2.01) for control (p=0.014). Prostate size was 12.4±4.4 (3.2-17.3) for juvenile group and 21.0±4.9 (12.0-33.0) for control (p=0.000). NIH-CPSI scores of juvenile group were 9.2±5.2(0-16), 5.5±3.5(0-10), 7.5±3.2(3-12), 22.2±8.1(7-38) for pain, voiding, quality of life (QoL) and total respectively and there was no difference compared with control group(p>0.05, Table 1). But juvenile patients may have more psychological stress confronting CPPS.
Conclusion: Compared with young adult patients, juvenile CPPS patients under age 20 showed no significant difference in terms of at least urologic clinical parameters. But more extensive study including the psychological assessment seems warranted for the pathophysiology of refractory CPPS.

UP.106
Efficacy of Antibiotic Prophylaxis Regimen in Transrectal Prostate Biopsy: A Prospective Study
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Introduction and Objectives: Prostatic abscess is an unusual condition, but also not all that rare. The purpose of this study is to review and assess the efficacy and safety of transrectal ultrasound guided aspiration of prostatic abscess under local anesthesia.

UP.105, Table 1. Comparisons of clinical parameters between juvenile and young adult CPPS

		Juvenile CPPS(N=20)	Adult CPPS(N=120)	P-value
Age(Yrs)		16.5±2.0	32.8±5.0	0.000
PSA(ng/mL)		0.65±0.39	1.22±0.48	0.014
Prostate size(gm)		12.4±4.4	21.0±4.9	0.000
NIH-CPSI	Pain	9.2±5.2	9.1±4.5	0.974
	Voiding	5.5±3.5	4.4±3.0	0.188
	QoL	7.5±3.2	7.4±2.8	0.877
	Total	22.2±8.1	20.6±8.4	0.513

Materials and Methods: We prospectively reviewed the medical records of all eighteen patients diagnosed and treated for prostatic abscess in the last three years. All patients were suspected clinically. TRUS was used for diagnosis in all cases. MRI was also done in fifteen patients. Sixteen patients had TRUS guided aspiration for management of prostatic abscess. Two patients underwent TURP because of multiple small abscesses. Data collected regarding etiology, clinical features, investigation and treatment was compared with the available literature. We have a specific 14 gauze needle for aspiration (The Ganga Ram Needle) made indigenously which works very well for these cases.
Results: All eighteen patients presented with fever, irritative voiding symptoms. Six patients had Foley's catheter indwelling. The common organism cultured were E.Coli, Mycobacterium tuberculosis, salmonella typhi, Staphylococcus aureus. The age of patients ranged from 40-78 years (mean 55). Out of the eighteen patients, fifteen were diabetics. TRUS revealed one or more hypo echoic areas within the prostate in all the patients. Successful treatment of prostatic abscess with TRUS guided needle aspiration was done in sixteen patients. Two patients underwent TURP. Mean hospitalization time was 7.4 days, and most frequent bacterial agent was E.Coli.
Conclusion: TRUS guided aspiration of prostatic abscess is effective technique. This is safe, reproducible and effective on long term basis with no adverse effects. It can be repeated safely and performed under local anesthesia. It has very little morbidity and no mortality. It's going to become the first-line treatment in the times to come. Further multicentric trials should be done to confirm the results.

UP.107
Minimally Invasive Treatment of Prostatic Abscess: Prospective Study of 18 Patients
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Introduction and Objectives: Prostatic abscess is an unusual condition, but also not all that rare. The purpose of this study is to review and assess the efficacy and safety of trans rectal ultrasound guided aspiration of prostatic abscess under local anesthesia.
Materials and Methods: We prospectively reviewed the medical records of all eighteen patients diagnosed and treated for prostatic abscess in the last three years. All patients were suspected clinically. TRUS was used for diagnosis in all cases. MRI was also done in fifteen patients. Sixteen patients had TRUS-guided aspiration for management of prostatic abscess. Two patients underwent TURP because of multiple small abscesses. Data collected regarding etiology, clinical features, investigation and treatment was compared with the available literature. We have a specific 14 gauze needle for aspiration (The Ganga Ram Needle) made indigenously which works very well for these cases.
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Conclusion: TRUS guided aspiration of prostatic abscess is effective technique. This is safe, reproducible and effective on long term basis with no adverse effects. It can be repeated safely and performed under local anesthesia. It has very little morbidity and no mortality. It's going to become the first line treatment in the times to come. Further multicentric trials should be done to confirm the results.

UP.108
Autonomic Dysreflexia-Like Response during Bladder Hydrodistention May Be Used as a Diagnostic Sign for Interstitial Cystitis
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Introduction and Objectives: Painful bladder syndrome/interstitial cystitis can be considered a functional pain disorder, often diagnosed on a clinical basis. Bladder hydrodistention is a therapeutic modality that is also used as a diagnostic tool. We examined the autonomic dysreflexia-like response through blood pressure and heart rate change after each session of bladder hydrodistention in patients with IC.
Materials and Methods: The study population included 32 patients with interstitial cystitis who underwent bladder hydrodistention from March 2009 to October 2012. Ten patients undergoing holmium laser enucleation of prostate (HoLEP) were used as control. All the patients were examined by checking medical and surgical history, pain scale, voiding symptom, urine and blood tests, urine culture and cytology, and urodynamic study. Bladder hydrodistention was performed at 80cmH20 for the initial 2 minutes and another 8 minutes. Systolic and diastolic blood pressure, and heart rate were checked before and after bladder distention and again after bladder drainage.
Results: The mean systolic blood pressure at baseline, first, and second bladder distention were 104.43±14.95, 149.53±25.10, 131.68±20.52 mmHg, respectively; mean diastolic blood pressures were 62.96±11.96, 92.68±22.16, 77.98±17.16 mmHg, respectively. The mean heart rate at baseline, first, and second bladder hydrodistention were 66.71±13.16, 80.34±22.62, 73.15±18.74 beats per minutes. The systolic blood pressure and heart rate increased significantly immediately after starting the bladder hydrodistention ($p=0.000$, 0.012). However, the increase in systolic blood pressure compared to baseline in the second filling phase was lower compared to the first hydrodistention ($p=0.002$). Although statistically not significant, the diastolic blood pressure also increased immediately after starting the bladder hydrodistention. There were no significant hemodynamic changes in the HoLEP group.
Conclusion: Autonomic response presented by elevated systolic blood pressure and heart rate were noted in patients with interstitial cystitis after bladder hydrodistention. We carefully suggest that these findings could be used in the diagnosis of interstitial cystitis.

UP.109
Endometriosis Increased the Risk of Bladder Pain Syndrome/Interstitial Cystitis: A Retrospective Cohort Study
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Introduction and Objectives: To explore the association between endometriosis and bladder pain syndrome/interstitial cystitis (BPS/IC)
Materials and Methods: We identified 9,191 female patients who had received a diagnosis of endometriosis as the study cohort. We randomly selected 27,573

subjects to be included as the comparison cohort. Each patient in this study was individually tracked for a 3-year period to identify those who subsequently received a diagnosis of BPS/IC. Cox proportional hazards regressions were carried out to estimate the 3-year risk of BPS/IC following a diagnosis of endometriosis.
Results: The incidence of BPS/IC following a diagnosis of endometriosis was 0.09% during the follow-up period for all subjects. The incidence rate of BPS/IC was 0.20% at follow-up period in patients with endometriosis, and 0.05% in controls. Cox proportional analysis indicated that the hazard ratio (HR) of BPS/IC for patients with endometriosis was 4.43 (95% CI = 2.13-9.23, P < 0.001) that of controls. The adjusted HR of BPS/IC for patients with endometriosis was3.74 (95% CI = 1.76-7.94, P < 0.001) after taking age group, urbanization level, and medical comorbidity into consideration.
Conclusion: We found that patients with endometriosis were at a higher risk than with comparison patients for having been subsequently diagnosed with BPS/IC during longitudinal follow-up.

UP.110
What Is the Value of New AUA Guideline of Hunner's Lesion for Interstitial Cystitis?
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Introduction and Objectives: This study investigated the characteristics and value of Hunner's lesions detected by high density cystoscopy in patients with ulcerative IC.
Materials and Methods: A retrospective classification was made on 104 females and 8 males who were diagnosed as ulcerative IC, using high density cystoscopy from January 2008 to June 2012. Based on the AUA guideline released in 2011, ulcer was classified into acute phase (Group 1), chronic phase (Group 2) and mixed phase (Group 3), which had mixed symptoms of both acute and chronic phases. A comparative analysis was performed for the duration of disease, visual analogue scale (VAS), bladder capacity and urinary frequency among the groups.
Results: There were 39 patients in Group 1, 52 in Group 2, and 21 in Group 3. The durations of disease were 53.4±36.1 months in Group 1, 76.7±42.1 in Group 2, and 72.2±47.2 in Group 3, indicating that the duration of Group 1 was shorter compared to that of Group 2 and 3 (P=0.017). VAS was 9.2 in Group 1, 8.7 in Group 2, and 9.4 in Group 3, showing no significant difference among the groups. As for the maximum functional bladder capacity, the average capacity of Group 1 was 257.4cc, that of Group 2 and Group 3 was 164.2cc and 171.3cc, respectively, indicating that the bladder capacity of Group 2 and 3 was smaller than that of Group 1 (P<0.001). According to the micturition chart, the frequency of Group 1 was 17.6, that of Group 2 was 19.5 and that of Group 3 was 17.7, with no difference among groups.
Conclusion: The early detection of Hunner's lesions, which cause bladder fibrosis, is also crucial for its diagnosis and prognosis. So far, however, the classification of ulcer, which can allow early detection of ulcer and determine the effect of treatment, has not been defined properly. The new AUA definition is believed to be essential for the treatment evaluation and prognosis, as it can express the condition of ulcer in a more proactive manner

UP.111
Fournier's Gangrene: Multi-Disciplinary Team Experience from Hong Kong
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Introduction and Objectives: Fournier's gangrene is characterized by progressive necrotizing infection of the external genitalia. It is a rare but life threatening urological emergency with high mortality rate of 20% - 40% in most series. Tremendous efforts have been made to improve the significant morbidity and mortality. In the present study, we reviewed our 4-year experience from Hong Kong with 16 patients treated for Fournier's gangrene with a multi-disciplinary team approach.
Materials and Methods: Totally 16 consecutive male patients admitted to our hospital with diagnosis of Fournier's gangrene between January 2009 and December 2012 were included in the study. They were managed with the closely liaised multi-disciplinary team involving urologists, general surgeons, plastic surgeons, anaesthetists, intensive care physicians, stoma and wound nurses. Patients' medical history, baseline demographic data, laboratory findings, peri-operative data and outcomes were collected. Fournier's Gangrene Severity Index (FSGI) was calculated at admission and upon discharge.
Results: Among the sixteen patients in the cohorts (mean age 61.1 years), the mortality rate was 6.7% (n=1), with the mean FGSI scores were 6.63 and 2.44 on admission and upon discharge respectively. 10 patients (62.5%) and 3 patients (19%) had underlying diabetes mellitus and malignancy respectively. The mean symptoms duration was 3.6 days (range 1 – 11).The mean body surface area involvement was 6.3% (range 1.0 – 10.0). In average, 2 debridement procedures were performed in each patient. 11 patients (68.8%) had faecal diversion by colostomy and all patients had urinary catheterizations. The mean length of stays in intensive care unit and in the hospital was 4.2 days (range 0 – 20) and 36.9 days (range 7 – 70) respectively. 8 patients (50%) used negative pressure vacuum dressing post-operatively. 9 patients (56.3%) required reconstructive surgery. FGSI on admission (p=0.006), numbers of debridement (p=0.006), age (p=0.013) and symptoms duration (p=0.012) were found significantly associated with mortality.
Conclusion: Fournier's gangrene is potentially lethal, we propose the introduction of multi-disciplinary team approach, which provides timely surgical interventions, optimized vital supports and specialized wound care, to be the integral part of management, through which the significant morbidity and mortality might be lightened.

UP.112
A Basic Study of Cephem-Resistant Escherichia Coli Isolated from Urine
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Introduction and Objectives: To investigate cephem-resistant E. coli isolated from urine collected at our hospital.
Materials and Methods: We performed the following examinations: (1) PCR for the detection of five types of ESBL; U2, C2, C3, TEM, and SHV, DHA-1, and CMY beta-lactamase; (2) O-antigen types; (3) PFGE; (4) Nucleotide sequence determination of TEM, SHV, and various CTX-M type ESBLs; (5) Drug susceptibility test.
Results: 1) Beta-lactamase types. Of the 30 strains, 29 were ESBL producers, with the remaining one producing AmpC beta-lactamases. 2) O-antigen types and PFGE patterns. O-antigen types were

determined: O1 and O86a type in one, O25 type in 22, and non-agglutinating type in six. PFGE patterns: A type in 13, B type in one, C type in one, K type in one, E type in two, and other types in 10. Among the 15 strains with CTX-M-14 type, nine showed the same pattern, suggesting that these were associated with nosocomial infection. 3) Structural gene of exogenous beta-lactamase. Fifteen strains with CTX-M-14 type had CTX-M-27 gene. Five with CTX-M-14 type + TEM had CTX-M-14 gene. One with CTX-M-2 type had CTX-M-2 gene, and another with CTX-M-3 type had CTX-M-15 gene. Among the six with CTX-M-3 type + TEM type, two had CTX-M-3 gene and four had CTX-M-15 gene. 4) Drug susceptibility. Quinolone-resistant strains account for 73.3%. The distributions of APBC were above 128 μg/ml and those of ABPC/SBT ranged from 8 to 32 μg/ml. PIPC/TAZ inhibited the growth of all the strains at the breakpoint of 16 μg/ml. Cephalosporin except for CAZ and AZT showed low susceptibility. The MIC for CMZ were 8 μg/ml or more in three strains and those for FMOX were 8 μg/ml or more in one strain. The strain with a MIC for FMOX of 16 μg/ml had CMY-2 gene. The low susceptibility strain with a MIC for FMOX of 2 μg/ml had TEM.
Conclusion: The most frequent strain from urine was CTX-M-27, followed by CTX-M-14 + TEM, and CTX-M-15. We are concerned that resistance to quinolons and ABPC/SBT may develop. It is recommended to use PIPC/TAZ, CMZ, FMOX. Carbapenems are also recommended.

UP.113
Review Paper on the Role of Hyperbaric Oxygen Therapy in Interstitial Cystitis/Painful Bladder Syndrome
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Introduction and Objectives: Hyperbaric oxygen therapy (HBO) is emerging as an alternative technique for treating refractory interstitial cystitis (IC). The theory is that the increased dissolved oxygen in the blood raises the levels of oxygen in the tissues and improves tissue healing. Other urological disorders such as radiation cystitis, fourniers gangrene and cyclophosphamide cystitis have also shown a good response to HBO therapy.
Materials and Methods: A literature search with the terms 'interstitial cystitis', 'painful bladder syndrome' and 'hyperbaric oxygen therapy' found four papers that have trialed HBO therapy in IC patients; three case series and one randomized control trial.
Results: A total of 31 patients have been treated with HBO therapy. All four studies showed a symptomatic improvement in pain, urgency, bladder capacity and O'Leary-Sant interstitial cystitis index. Urinary frequency only improved in three out of four of the trials. The percentage of patients considered as responders to treatment varied at 25%, 66.7%, 82% and 100%.
Conclusion: Preliminary trials of HBO therapy seem to have a good patient response with effective symptomatic relief. The patient response rates varied greatly between the trials. This is due to each trial's different definition of a 'patient responder'. Further work in urology departments at HBO centers is required to further assess the benefits of HBO treatment in IC.

UP.114
The Voiding Pattern and the Prevalence of Overactive Bladder Syndrome in Patients with Recurrent Cystitis
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Introduction and Objectives: Repeated inflammatory stimuli tend to elicit enlargement of the bladder dorsal root ganglia neurons and reduce the activation threshold for bladder afferents. The aim of this study was to compare voiding patterns between patients with recurrent cystitis (RC) and normal population and to investigate the prevalence of overactive bladder syndrome (OAB) in patients with RC.
Materials and Methods: This was a case-control study including adult women seen in urology clinic. A total of 79 women who were treated with RC more than three times in the previous 12 months were included from January 2008 to December 2011. Controls were 79 women with stress urinary incontinence and no history of recurrent infection and absence of voiding problem. Three-day bladder diaries, uroflowmetry and residual volume were evaluated in absence of an active infection. Voiding patterns between RC and control group were compared and the prevalence of OAB in patients with RC was evaluated. The OAB was defined at total score of the overactive bladder symptom score (OABSS) ≥ 3 and the urgency score of OABSS ≥ 2 and treated with anticholinergics more than 3 months.
Results: The mean age was 59.6 years old. The mean 24-hour frequency was greater in women with recurrent cystitis than controls in the bladder diaries (7.2±1.9 vs 6.4±1.4 voids/day, p=0.007). The voided volume was lower in women with RC than controls (215.2±81.2 vs 244.5±95.1cc, p=0.042). There was no difference of 24-hour voided volume in women with RC than controls (1492.6±567.5 vs 1522.8±530.9cc, p=0.066). In uroflowmetry, the maximum flow rate was lower in women with recurrent cystitis than controls (24.3±10.9 vs 28.5±10.9m/s, p=0.023). The voided volume and post-void residual volume were not different between two groups (p=0.066, p=0.389). OAB was diagnosed in 32 patients (40%) in patients with RC.
Conclusion: The mean 24-hour frequency was higher and the voided volume was lower in patients with RC than the control group. The prevalence of OAB in patient with RC was high, thus we should observe voiding patterns carefully when we treat patients with RC.

UP.115
Severe Urinary Tract Infection causing Infective Endocarditis
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Introduction and Objectives: Infective endocarditis (IE) is defined as an infection of the endocardial surface of the heart, which may include one or more heart valves, the mural endocardium, or a septal defect. All cases of IE develop from a commonly shared process, bacteremia that delivers the organisms to the surface of the valve, adherence of the organisms and eventual invasion of the valvular leaflets. Bacteremia can result from various invasive procedures, ranging from oral surgery to sclerotherapy of esophageal varices to genitourinary surgeries to various abdominal operations. But it is not well known among urologists that

urological management or urinary tract infection (UTI) may cause IE.
Materials and Methods: We retrospectively reviewed the record of 25 patients diagnosed with IE, sixteen men and nine women aged between 12 and 83 (average 55.6). These patients were admitted to our hospital from April 2007 to April 2012.
Results: Of the patients, 24% (6 cases) had a dental disease, 8% (2 cases) had a digestive disease and pyogenic spondylitis, 4% (one case) had atopic dermatitis, otitis media and acute prostatitis, and in 12 cases, the source of the infection was unknown. The patient with acute prostatitis, 83 years old, had repeated episode of urinary retention and acute prostatitis. He had no prior history of valvular heart disease. The blood and urine culture revealed Enterococcus faecalis (E. faecalis). He underwent a cardiac valve replacement.
Conclusion: Despite being a common cause of bacteremia, Escherichia coli is rarely implicated in the occurrence of IE. However Enterococci, most commonly E. faecalis, are the third leading cause of IE. Enterococci cause nosocomical infections, being increasingly associated with UTI, intra-abdominal and pelvic infections, catheter-related infections, surgical wound infections, and central nervous system infections. Physicians should consider IE in patients who developed bacteremia.

UP.116
Microbial Ecology and Emerging Colistin Resistance in Urinary Tract Infections with Sepsis at a Tertiary Care Hospital in Delhi, India
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Introduction and Objectives: Prevalence of various organisms causing UTI with their susceptibility patterns is largely lacking. This study determined the prevalence of microorganisms causing urosepsis and their susceptibility patterns at a tertiary care centre in India.
Materials and Methods: Blood and urinary isolates from Intensive care unit (ICU) and wards between January and December 2011 were reviewed retrospectively using hospital information system (Speedminer, Malaysia) and Wattal-Protech software.
Results: A total of 804 and 590 blood isolates, 808 and 1321 urine isolates from ICU and wards, respectively, were studied. Repeat isolates were excluded from the study by the software. The predominant organisms causing urosepsis were Klebsiella spp., E.coli, Candida spp. and Pseudomonas spp followed by vancomycin resistant Enterococci and S.aureus. Acinetobacter spp. was more commonly seen in blood isolates (69/804) in ICU and was largely absent from urinary isolates (6/808) in ICU but was equally present in blood and urinary samples taken from wards. (Table 1).
Urinary isolates of Klebsiella spp.and E.coli from wards and ICU were mostly resistant to nitrofurantoin, fluoroquinolones, cephalosporins, and carbapenems but were all susceptible to colistin except 1% resistance seen in E.coli in ICU. Overall sensitivity of blood and urine isolates of P.aeruginosa to the commonly used antibiotics was better observed in wards with approximately ≥60% and ≥ 40%, respectively, as compared to ≥40% and ≥20%, respectively in ICU. Blood isolates of Acinetobacter spp. revealed ≤20% and ≤ 40% antibiotic sensitivity in ICU and wards, respectively, and 1% resistance to colistin in ICU. Commonest blood isolate being Candida spp. non albicans showed variable susceptibility patterns to azole antifungals.
Conclusion: Microbial ecology of urosepsis suggests more resistant infections in ICU including colistin.

UP.117
A Survey of Chinese Urologists' Practice Patterns of Management of CPPS
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Introduction and Objectives: To investigate the nationwide usage of the Chinese Urological Association (CUA) Guidelines on Prostatitis, and its effects on the Chinese urologists' clinical practice patterns of diagnosing and treating chronic pelvic pain syndrome (CPPS).
Materials and Methods: We sent questionnaires to urologists in 399 hospitals in 63 cities in China. All the questionnaires are collected and the eligible ones are analyzed.
Results: Of the total 2251, 2046 (90.9%) questionnaires are eligible. There are 31.3% urologists from comprehensive medical center (the "grade 3" hospitals in Chinese healthcare system). There are 72.9% urologists with senior or intermediate professional titles, and 92.7% urologists have learned the CUA Guidelines on Prostatitis. Most urologists agree that CPPS is a clinical syndrome, which is diagnosed by excluding other conditions, and treated with the aim of relieving the symptoms. There are certain differences on some viewpoints of CPPS between the urologists who learned or did not learn the guidelines. The urologists mostly choose medical treatment (88.5%), life style adjustment (83.8%) and psychological therapy (81.7%). The most frequently used medical treatment is phytotherapy (83.1%), alpha-blockers (72.5%) and antibiotics (65.2%). These data are different from a similar survey conducted before the CUA guidelines on Prostatitis published in 2006.
Conclusion: The CUA Guidelines on Prostatitis is widely used nationwide

UP.116, Table 1.

	ICU		Wards	
	Blood (n=804)	Urine (n=808)	Blood (n=590)	Urine (n=1321)
Klebsiella spp.	104 (12.9%)	52 (6.4%)	43 (7.3%)	160 (12.1%)
E.coli	40 (5.0%)	103 (12.7%)	54 (9.2%)	415 (31.4%)
Candida spp.	11 (1.4%)	135 (16.7%)	29 (4.9%)	242 (18.3%)
Pseudomonas spp.	37 (4.6%)	43 (5.3%)	22 (3.7%)	115 (8.7%)
Acinetobacter spp.	69 (8.6%)	6 (0.7%)	23 (3.9%)	23 (1.74%)

and promotes the standardization of the management of CPPS in China.

UP.118
Ten-Year Review of Vasectomy Pathology: Strengthening the Case Against Routine Histological Evaluation
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Introduction and Objectives: There currently are no EAU guidelines for vasectomy. AUA guideline on vasectomy concludes that routine histologic confirmation is unnecessary in performing vasectomy because the finding of azoospermia after a bilateral vasectomy is the standard for success. The guideline statement is based on expert opinion. Despite this direction, many centers continue to send all routine vasectomy specimens for pathological evaluation. This novel study evaluates a 10-year cohort of routine histological vasectomy specimens for rates of "failed" vasectomy, cost analysis, and rates of dangerous pathology.
Materials and Methods: A retrospective review of a single pathology lab's database from 1999 to 2009 was completed.
Results: A total of 3883 procedures were completed with 7766 individual specimens submitted. Only 17 cases were reported as absence of vas deferens in specimen or 0.44% (95% CI: 0.26% to 0.70%). Of abnormal specimens, 82% were determined to be vascular or nerve tissue, with the remainder being adipose or fibrous tissue. Of the 17 abnormal cases, 12 (71%) completed postoperative semen analysis and 2 patients directly repeated the procedure with success. Of the pathological "failures" only 58.3% (95% CI: 27.7% to 84.8%) were actual vasectomy failures by semen analysis, i.e 42% showed absence of sperm in the hanging drop despite having no vas deferens in the pathological specimen. In our data, the probability of failed vasectomy was 0.0026. That is, 1 failed vasectomy could be expected in every 385 procedures. Estimated cost of histologic analysis per specimen in our center was $72.50. The average cost per year on routine vasectomy pathology was $28,152. No malignancy, hyperplasia or suspicious histology was reported in all specimens.
Conclusion: The likelihood of dangerous pathology in vasectomy is essentially nil. Considering the cost of histological examination, the rarity of excising structures other than the vas deferens and the high probability that even with abnormal histology cases the patient will be azoospermic, physicians should consider only sending difficult cases for histologic analysis. Ultimately, post-op semen analysis will determine success or failure of vasectomy, not histology.

UP.119
Differences in the Clinical Characteristics between Young and Elderly Men with Subclinical Varicocele
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Introduction and Objectives: Information concerning the clinical characteristics in elderly men with subclinical varicocele is relatively limited. This study was assessed to evaluate the differences of clinical characteristics between young and elderly patients with subclinical varicocele by retrospective chart review.
Materials and Methods: Between June 2001 and February 2010, 139 young (18-30 years) men and 133 elderly (45-55 years) men with subclinical varicocele, and 30 age-matched men without subclinical varicocele were recruited for this study. All the patients were divided into 6 groups. Nine infertile young patients were assigned to Group 1, 130 fertile young patients to Group 2, 8 infertile elderly patients to Group 3, and 125 fertile elderly patients to Group 4. Group 5 (15 young) and 6 (15 elderly) were control groups. The parameters for comparison included body mass index (BMI), scrotal temperature (ST), semen quality (sperm motility, morphology and density) and pH value, serum concentration of follicle-stimulating hormone (FSH), luteinizing hormones (LH), testosterone, testicular volume, grade of varicocele and peak retrograde flow (PRF) and maximal vein diameter (MVD) by color Doppler ultrasound (CDS).
Results: Elderly men with subclinical varicocele had a higher incidence of bilateral subclinical varicocele (25.2% vs. 15.0%), but a lower incidence of unilateral right subclinical varicocele (2.9% vs. 7.5%) than young patients with subclinical varicocele. In addition, patients with subclinical varicocele had lower BMI than those without, and infertile young patients with subclinical varicocele had the lowest levels of BMI. Furthermore, infertile patients (Groups 1 and 3) with subclinical varicocele had significantly lower testicular volume and higher PRF and ST than fertile men with subclinical varicocele (Groups 2 and 4).
Conclusion: Infertile elderly patients with subclinical varicocele had significantly lower levels of testosterone, and higher levels of FSH than infertile young men with subclinical varicocele. In addition, infertile elderly patients with bilateral subclinical varicocele (Group 3, n=2) had the lowest levels of testosterone.

UP.120
Genetic Abnormalities in Infertile Men with Azoospermia and Oligospermia in Qatar: Report of Our Experience
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Introduction and Objectives: Approximately 8% of couples attempting to conceive are infertile and male infertility accounts for approximately 50% of infertility among couples. According the literature up to 25% of males with non-obstructive infertility has genetic abnormalities whether chromosomal abnormality or microdeletion of the long arm of the Y chromosome. The aim of the present study was to record the prevalence of genetic abnormalities in infertile male patients in Qatar. Also, the study aimed to review the IVF outcome for these abnormalities.
Materials and Methods: The records of a total of 511 male infertility patients with oligozoospermia and azoospermia were evaluated retrospectively. Data was collected and statistical analysis done.
Results: From the 511 patients studied, 179 (35.02%) patients were Qatari and the other 332 patients were of other nationalities. A total of 9.59% (49/511) patients were found to have genetic abnormality. There were 36 patients with chromosomal abnormality, 11 patients with Y-chromosome microdeletion and 2 patients with both chromosomal abnormality and Y chromosome microdeletion. Of the 179 Qatari patients, 10.6% had genetic abnormalities (19/179), 17 patients had chromosomal abnormality, 1 patient had Y-chromosome microdeletion and 1 patient had both abnormalities. Twenty three patients out of the 49 patients with genetic mutation underwent trial of ICSI. Sperm were successfully retrieved in 9 patients and clinical pregnancy occurred in only 2 cases.
Conclusion: Our findings are

comparable to other studies as regards the total prevalence of genetic abnormalities. However, the prevalence of Y chromosome microdeletion is much less than that previously reported. Genetic abnormalities decrease the chances of sperm retrieval as well as the pregnancy rate in men with azoospermia and severe oligozoospermia.

UP.121

Outcome of Microsurgical Testicular Sperm Extraction in Familial Idiopathic Non-obstructive Azoospermia

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Introduction and Objectives: The familial incidence of idiopathic non-obstructive azoospermia (NOA) suggests its genetic nature. With the advent of intracytoplasmic sperm injection (ICSI), patients with NOA became able to father their own children by using testicular sperm which can be found in around 50% of NOA cases. The aim of the present study is to evaluate the testicular sperm retrieval rate in familial idiopathic NOA compared to non-familial type.
Materials and Methods: Medical records of all patients with idiopathic NOA undergoing microsurgical testicular sperm extraction (TESE) during the past 5 years were reviewed. Patients were then divided into two groups; Group "A" with familial idiopathic NOA and Group "B" with non-familial idiopathic NOA.
Results: Group "A" included the members of 7 families, each family contains 2 brothers with idiopathic NOA (total=14 patients). Group "B" consists of 101 patients with non-familial idiopathic NOA. There was no statistically significant difference in the patients' demographics between the two groups. Also there was no difference between both groups as regards testicular size, FSH, LH, testosterone and prolactin. All 115 patients underwent microsurgical TESE for ICSI trials. In group "A" sperm retrieved rate was 14.29% (2/14) compared to 43.56% in group "B" (44/101) (p= <0.05). The two patients in group "A" with successful sperm retrieval belonged to one family. The histopathological diagnosis was the same in the brothers in each family.
Conclusion: Familial idiopathic non-obstructive azoospermia has a poor prognosis as regards successful sperm retrieval during ICSI. The familial occurrence of idiopathic NOA denotes the presence of genetic abnormalities that are still unknown and needs more research in this field.

UP.122

Chromosomal Translocations and Male Infertility

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Introduction and Objectives: Autosomal abnormalities can affect spermatogenesis even in the presence of intact Y chromosome. There are scares reports in the literature describing the effect of chromosomal translocations on male infertility. The aim of the present study was to record the effect of chromosomal translocations; whether Robertsonian or non-robertsonian on male infertility.
Materials and Methods: The medical records of infertile male patients with chromosomal translocations were reviewed. The patients were classified into 2 groups; group "A" including patients with Robertsonian translocations and group "B" including patients with non-Robertsonian translocations. Semen parameters, hormonal assay and testicular histopathology were reviewed and compared between both groups.
Results: The study included 13 patients with chromosomal translocation, 6 patients in group "A" (Robertsonian translocation) and 7 patients in group 'B" (Reciprocal translocation). In general, all 13 cases of translocations showed abnormal semen parameters. In group "A", 3 patients show azoospermia while the other 3 patients showed oligoasthenoteratozoospermia. In group "B", 4 patients showed azoospermia while the other 3 showed oligoasthenoteratozoospermia but the sperm count and motility were significantly lower than in group "A". As regards hormonal profile, all patients in group "A" showed normal hormonal levels except one case that showed elevated FSH and another case that showed decreased testosterone level. As for group "B", 2 patients showed elevated FSH and decreased testosterone while the other 5 patients showed normal hormonal levels. In Group "A", 3 patients were scheduled for ICSI, sperm were retrieved from semen in 2 patients while the 2 other patients did microsurgical sperm extraction (micro-TESE) and sperm were found in one patient only so ICSI was done in only 3 patients. No pregnancy occurred in any patient. In group "B", 5 patients were scheduled for ICSI. All 5 patients underwent micro-TESE. Sperm were found in only 3 patients. Sperm quality was not suitable for ICSI in one case so ICSI was done in only 2 cases and no pregnancy occurred.
Conclusion: Chromosomal translocations negatively affect spermatogenesis. Reciprocal translocation seems to have more delirious effect. However, chromosomal translocations as a whole has poor prognosis for pregnancy by ICSI.

UP.123

Revisiting Estrogen Antagonists (Clomiphene or Tamoxifen) as Medical Empiric Therapy for Idiopathic Male Infertility: A Meta-analysis

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Introduction and Objectives: Estrogen antagonist drugs, despite the lack of evidence, are still used to improve semen characteristics and male fertility. The aim of this study is to synthesize the latest evidence regarding the use of estrogen antagonists as empiric medical therapy for idiopathic male infertility with oligo and/ or asthenoteratozoospermia through meta-analysis of randomized controlled trials (RCTs).
Materials and Methods: Systematic literature acquisition was done for English biomedical databases (MEDLINE, EMBASE, OVID, Proquest database, Google scholar, Neon Herdin, The Cochrane Central Controlled Trials Registry) and other foreign language biomedical databases (http:// www.e-meducation.org/ medical_resources/biomedical-databases) up to September 2012. Relevant RCTs were critically appraised independently by two physician reviewers. Dichotomous data of pregnancy rate and adverse events were extracted for calculation of odds ratio (OR) and 95% confidence interval (CI). Effect estimates were pooled using Peto method. The continuous data of semen and endocrine parameters were calculated for the mean difference between pre and post treatment effects. The weighted mean difference (WMD) and standard deviation (SD) between the control and intervention group

were determined and pooled using the random effects model. Inter-study heterogeneity and publication bias were assessed. The PRISMA guideline for meta-analysis reporting was followed. The protocol is available on PROSPERO Meta-analysis registry, registration number: CRD42012003172.
Results: Eleven RCTs were included for meta-analysis. The pooled effect estimates showed that estrogen antagonists use were associated with a statistically significant increased pregnancy rates (pooled OR 2.42; 95% CI 1.47 to 3.94; P = 0.0004) increased sperm concentration (WMD 5.24; 95% CI 2.12, 88.37; P=0.001) and increased percent sperm motility (WMD 4.55; 95% CI 0.73, 8.37; P=0.03). There was also significant elevation of serum FSH (WMD 4.19 95% CI 2.05, 6.34; P=0.0001) and testosterone (WMD 54.59; 95% CI 15.92, 93.27; P=0.006). No significant difference in adverse event was noted between estrogen antagonists treated group and controls.
Conclusion: These evidences suggests that use of estrogen antagonists for idiopathic male infertility may increase pregnancy rate, improve sperm concentration and percent sperm motility with low non-serious adverse event.

UP.124
Pampiniform Plexus Dilatation versus Isolated Cremastric Vein Dilatation as a Predictor for Spontaneous Pregnancy Rate Following Microsurgical Varicocelectomy
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Introduction and Objectives: There is significant evidence in the literature to support the theory that varicocele has a harmful effect on the testes in the form of oligo-astheno-terato-spermia and that varicocelectomy can prevent the progressive deterioration in testicular function, as well as restore the damage. Objectives: Comparing post varicocelectomy spontaneous pregnancy rate in patients with varicocele and infertility either due to dilated pampiniform plexus of vein only or dilated cremastric vein only (external spermatic vein) or both using microsurgical sub inguinal varicocelectomy.
Materials and Methods: A total of 87 patients with primary infertility lasting 1 year or longer and palpable varicocele diagnosed both clinically and by Doppler ultrasound were enrolled in this study. Preoperative evaluation included complete history, physical examination and two semen analyses showing presence of at least one impaired semen parameter. Post operative follow up by semen analysis at 4 months and 1 year post-operatively. Under microscopic view, the 87 patients were divided into 3 groups, group A with 53 patients (60%) having isolated pampiniform plexus dilatation, group B with 11 patients (12%) having isolated cremastric vein dilatation and group C with 23 patients (26%) having combined pampiniform plexus and cremastric vein dilatation.
Results: The mean age was (25±5) years and mean follow-up = 13.3±3.3 months. We noted improvement of total semen parameters in about 57patients (65%) and total spontaneous pregnancy was achieved in 31 patients (35%) of treated men. The total spontaneous pregnancy in group A was 19 patients (35%), group B 1 patient (9%) and group C 11 patients (47%).
Conclusion: Our data support the practice of sub inguinal microsurgical varicocelectomy for the treatment of clinical varicocele and infertility except for patients with isolated cremastric vein dilatation, diagnosed clinically having varicocele, as they had lower outcome of spontaneous pregnancy rate.

UP.125
Predictive Factors Associated with Unsuccessful Varicocele Repair
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Introduction and Objectives: Several studies have shown that surgical repair improves semen parameters and increases the odds of spontaneous pregnancy. However the exact effect of surgical repair treatment remains controversial. Substantial controversy exists as to whether varicocelectomy is effective in all infertile men. There are no studies to date, to our knowledge, that have documented no effect of varicocelectomy on semen parameters. Therefore, the aim of our study was to determine pretreatment parameters which predict lack of improvement following varicocele repair in semen quality.
Materials and Methods: We retrospectively evaluated a total of 242 infertile patients who underwent subinguinal varicocelectomy from January 2011 to March 2012. Significant improvement was defined as greater than 2 or more improved in parameters on postoperative semen analysis. Parameters evaluated included age, height, weight, testicular volume, smoking history, alcohol consumption, varicocele grade, spermatic artery safeness, preoperative sperm count, motility, morphology and viability. All men had least 2 preoperative semen analyses as well as semen testing at 3 and 6 months postoperatively. We confirmed that varicoceles are successfully treated by ultrasound in follow-up periods.
Results: A total of 188 patients were available for analysis. Significant improvement on semen analyses was 70.7% (133/188) and 29.3% (55/188) still deteriorated on semen quality after varicocele repairs. Most of parameters were not significant different between two groups, but statistical significance was seen on sperm count after varicocelectomy ($p<0.05$).
Conclusion: The majority of varicocele patients had abnormal semen parameters, and most semen parameters showed significant improvement after varicocelectomy. However varicocele repair is not associated with an improved semen profile in all cases. Sperm counts, a single predictive factor, should be considered for successful surgical outcomes. The enough explanation will be need to a patient before surgery and additional factors for the investigation will be needed.

UP.126
Antisperm Antibodies or Leukocytes in Semen Influences Intrauterine Insemination and It Depends on Preparation Method
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Introduction and Objectives: During the sperm preparation for Intrauterine Insemination (IUI), characteristics such as Anti-Sperm Antibodies (ASA) and presence of leukocytes are noted. ASA means immunological factors and may be related to leukocytes presence, which is suspected contributing factor to male infertility. We hypothesized that the presence of ASA and leucocytes would decrease likelihood of pregnancy.
Materials and Methods: This study was retrospective, review of IUIs performed

2007-2011 (n=152), microscopic examination of semen sample before and after preparation for IUI was performed. Antisperm antibodies were done by MAR-test and leukocytes were detected by peroxidase-test.
Results: Analysis performed on 189 IUI cycles involving 152 women (mean age 33) immunologic problem was detected in 19 procedures (9.94%) overall, the presence of ASA positive or leukocytes over 1mil/Ml was not associated with pregnancy in 19% versus negative ASA and lower than 1mil/Ml in 14.3%. When stratified by sperm preparation method, the effect was greater in the "wash" method group than the density gradient group.
Conclusion: Immunological factor and leukocytes have generally been a factor for poorer prognosis in IUI cycle. But the presence of ASA and high leukocytes number in seminal plasma, during the preparation ejaculate for IUI does not decrease the chance of pregnancy. Further investigation in a higher number of patients will evaluate these findings.

UP.127
Sperm Retrieval Over a 14-year Period: Percutaneous Sperm Aspiration and Testicular Extraction
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Introduction and Objectives: Sperm retrieval is often performed by urologists in cases of azoospermia undergoing in vitro fertilization (IVF) / intracytoplasmic sperm injection (ICSI). We report our data on sperm retrieval performed in 1996-2009.
Materials and Methods: All patients underwent trial of percutaneous epididymal sperm aspiration (PESA), with subsequent testicular sperm extraction (TESE) upon failure. Sperm retrieved were immediately used for ICSI.
Results: Total number of patients who underwent sperm retrieval was 310, ova was retrieved in 309. PESA performed on 179 patients (57.7%), and TESE on 131 patients (42.3%). Embryos were transferred in 288 cases (92.9%) and overall pregnancy rate was 38.4%. Pregnancy rate for cases where sperm were retrieved from PESA was 44.7% while from TESE was 30.5%. Proportion of cases with succesful percutaneous retrieval (PESA) varied annually from 13.3% to 77.8%.
Conclusion: Percutaneous sperm retrieval can provide sperm for successful IVF/ICSI. Failure of percutaneous sperm retrieval may be associated with lower pregnancy rates.

UP.128
A Study to Determine the Fertility Rates of Men with Congenital and Acquired Vas Deferens Obstruction following the Use of Three Sperm Retrieval Techniques
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Introduction and Objectives: The aim was to investigate the ICSI outcomes in male patients with post-testicular azoospermia who had either CBAVD or had a previous vasectomy. We also examined three sperm retrieval techniques, PESA, MESA and TESE and statistically assessed whether any of the techniques influenced the ICSI outcome.
Materials and Methods: A retrospective review of data between 10th January 2008 and 11th August 2011 of couples with men having either obstructive azoospermia secondary to CBAVD or vasectomy. The sperm extraction method, age of female partner and ICSI outcome for each couple were noted and analysed.
Results: Thirty couples identified where the male partner had an obstructive azoospermia; 12 due to CBAVD and 18 having had a vasectomy. Overall the positive ICSI outcomes for CBAVD and vasectomies were 43.7% and 56.3% respectively. The success rates for couples with women under 35 were 50% for CBAVD and 75% for previous vasectomy. For women above 35 years the rates were lower at 37.5% for vasectomies only. There were no positive ICSI outcomes for couples with CBAVD above 35 years. Fertilization rates between CBAVD and vasectomies were similar and did not statistically differ. Fertilization rates for MESA, PESA and TESE were 37.5%, 56.3% and 6.3% respectively with PESA being the most common and successful extraction method. Using binary logistic regression and combining the type of post-testicular azoospermia and method of extraction on fertility rates the results showed no statistical difference in outcomes.
Conclusion: Overall positive ICSI outcomes were above the national average for each age bracket in our unit. Fertility rates were similar for CBAVD and previous vasectomies irrespective of the sperm extraction method. There were no significant differences in sperm extraction methods.

UP.129
Varicocelectomy: Predictive Factors
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Introduction and Objectives: There are a lot of possible factors that influence the result of the varicocelectomy. Some of these are ejaculate, hormonal, morphometric, surgical factors. This study was intent to examine some factors: sperm parameters, hormonal parameters, clinical evaluation.
Materials and Methods: Ninety-eight infertile men with varicocele who require subinguinal microsurgical varicocelectomy were analyzed. According to the improvement or not in sperm count, progressive motility and morphology, the patients were divided into two groups. First (A) were those with improvement in sperm parameters after 6 months of operations, and second (B) were those without improvement. The predictive factors that were analyzed included: age, preoperative sperm parameters, and volume of the testis, varicocele grade, and serum levels of FSH, LH, PRL, testosterone and number of legated veins.
Results: Sperm parameters: count, progressive motility and morphology significantly improved after 6 months of the operation in group A (n=23; $p<0.01$). No significant difference was observed between subinguinal varicocelectomy and age, preoperative sperm parameters, varicocele grade and serum level of LH, PRL, and testosterone. Men in the group A had significantly higher volume (28.8-4.9ml) than group B (24.2-2.1ml) and also lower serum FSH level (8.3-3.5mU/mL) that group B (11.4-4.4 mU/mL). There was also a difference in number of legated veins (A=8-1 vs 7-2).
Conclusion: Our study showed that the possible predictive factors of varicocelectomy in infertile men could be higher volume of the testis, lower serum FSH level and higher number of legated veins.

UP.130
Neutrophil to Lymphocyte Ratio as an Independent Prognostic Factor in Nonmetastatic Renal Cell Carcinoma
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Introduction and Objectives: Renal cell carcinoma (RCC) is the most common malignant tumor of the kidney, accounting for 2% to 3% of all adult malignancies. The natural history of renal cell carcinoma is highly unpredictable. Purpose of this study was to investigate the prognostic significance of the neutrophil-to-lymphocyte ratio to predict overall and disease free survival in patients with non metastatic renal cell carcinoma. In addition we evaluated the prognostic value of currently established clinical and pathological factors of RCC.
Materials and Methods: We retrospectively reviewed data from 114 patients with nonmetastatic RCC who underwent radical nephrectomy between 1996 and 2011. Parameters including pretreatment neutrophil-to-lymphocyte ratio and other hematological and pathological features were evaluated for their role as predictors of disease free and overall survival.
Results: Median follow up was 69 months. Predominant histological type, pathological stage and nuclear grade were clear cell carcinoma, pT1 and Fuhrman II, respectively. Five year overall and disease free survival were 86% and 82 %, respectively. Univariate analysis revealed that only nuclear grade ($p = 0.02$) and preoperative anemia ($p<0.01$) were correlated with overall survival, while pathological stage, nuclear grade, anemia and neutrophil-to-lymphocyte ratio of 2.7 or greater were associated with disease free survival ($p = 0.02$, $p = 0.038$, $p<0.01$, $p=0.04$ respectively). In the multivariate setting, anemia ($p=0.04$) and pathological stage ($p=0.026$) were the only independent statistically significant predictors of disease free survival while anemia ($p=0.018$) and neutrophil to lymphocyte ratio ($p=0.034$) were the only factors correlated with overall survival.
Conclusion: In nonmetastatic RCC, an increased pretreatment neutrophil-to-lymphocyte ratio is an independent predictor of overall survival. The combination of this novel laboratory parameter with established prognostic factors such as Fuhrman nuclear grade, pathological stage and preoperative anemia could be used to guide the intensity of follow-up and identify high-risk patients who can be targeted for adjuvant therapy trials.

UP.131
Does Socioeconomic Deprivation, Body Mass Index and Smoking Status Influence Grade, Stage, Multifocality and Recurrences in Upper Tract Transitional Cell Carcinoma?
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Introduction and Objectives: Socioeconomic deprivation is associated with aggressive disease and reduced survival in many cancers; however, little is known regarding its impact on disease aggressiveness and pattern of recurrences of upper tract transitional cell carcinoma (UT-TCC). We investigated the relationships between Scottish Index of Multiple Deprivation (SIMD), body mass index and smoking status and recurrence in patients with clinically localised resectable UT-TCC.
Materials and Methods: Patients who underwent nephroureterectomy for UT-TCC between 1998 and 2012 at Ninewells Hospital, Dundee were retrospectively evaluated. Patients whose area of residence was ranked in the lowest quantile according to the national Index of Multiple Deprivation were classed as deprived. Overall survival and cumulative risk of recurrence were calculated using the Kaplan-Meier method, conventional and time-dependent Cox regression analysis.
Results: There were 106 patients who underwent nephroureterectomy for clinically localized UT-TCC in the study period. Mean age 71.4 years (35-88years). Mean follow up-4.6 years (1-172 months). Although patients from higher deprivation index had advanced stage (>=T2) this wasn't statistically significant (39.6% vs. 54.4 %, $p=0.17$), high-grade disease was similar between the two groups (61.4% vs.58.3%, $p=0.84$). Lower deprivation index had higher rates of multifocal disease (37.5% vs. 21.2% $p=0.08$), however this wasn't statistically significant. Overall survival rates was slightly higher for the lower deprivation index category (log rank test, $p=0.667$). Six-yr raw cumulative recurrence was 22.9% and 24.6% in deprived and non-deprived patients respectively. Time-dependent Cox regression analysis did not show that deprivation was a significantly stronger predictor of recurrence with or without adjustment for other prognostic variables. Smoking did not influence stage ($p=0.85$), grade ($P=0.54$) or multifocality ($p=1$). Similarly high BMI (>=25) did not influence stage ($p=0.28$), grade ($p=0.1$) or multifocality ($p=1$)
Conclusion: Socio-economic status, smoking and BMI do not appear to be independent predictors of stage/grade, multifocality, recurrence and overall survival in UT-TCC.

UP.132
Prognostic Significance of Body Mass Index in Asian Patients with Localized Renal Cell Carcinoma
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Introduction and Objectives: To investigated the prognostic value of BMI in Asian patients with renal cell carcinoma.
Materials and Methods: We evaluated 170 patients who underwent surgery for localized RCC (any T stage, N0M0) between 1996 and 2004 at our institution. Patients were stratified by BMI: 22 or less versus greater than 22. Overall, cancer-specific, and recurrence-free survival was estimated using the Kaplan-Meier method. Multivariate analysis was performed with the Cox regression model.
Results: The BMI was less than 22 in 83 (49%) patients and greater than 22 in 87 (51%). The differences between BMI categories in ECOG performance status ($p = 0.003$) and pathological stage ($p = 0.015$) were seen, but not in other relevant parameters. The median follow up was 50 months. BMI remained an independent predictor for CSS and RFS ($p = 0.041$ and $p = 0.03$, respectively), but not for OS ($p = 0.13$) on multivariate analysis.
Conclusion: Our findings identify increasing BMI in the Asian population as an independent predictor for favorable CSS and RFS in patients with RCC treated by surgery. Further studies, including a multi-institutional, prospective Asian cohort, are required to confirm these findings.

UP.133
Does Tumor Size Influence the Accuracy of Ureteroscopic Biopsy for Upper Tract Urothelial Carcinoma?
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Introduction and Objectives: Select low-grade tumors of the upper urinary tract can be effectively managed with nephron-sparing endoscopic therapy. Unfortunately, a proportion of patients with low grade

disease at presentation based on current staging paradigms are upgraded/staged after surgery. We examine clinicopathologic factors associated with accuracy of diagnostic biopsy for upper tract urothelial carcinoma (UTUC).

Materials and Methods: Clinicopathologic records of patients diagnosed with UTUC and treated surgically by a single urologist were reviewed. Clinical cTx staging was assigned when no degree of invasion was apparent on biopsy and imaging findings. All pathologic specimens were re-reviewed by an experienced genitourinary pathologist (CG). Tumor size was assessed by 4 types of measurement: 1) surface area (cm^2); 2) index volume (cm^3); 3) aggregate volume (cm^3); 4) index tumor single dimension (cm). Diagnostic biopsy grade (bG) was compared with pathologic grade (pG) and stage using McNemar's test for agreement. Fisher's exact or Wilcoxon rank sum tests were used to determine the association of clinical and pathologic features to changes in grade and stage.

Results: We identified 66 patients meeting inclusion criteria. The majority were male (61%) and Caucasian (92%), with mean age of 74.6 years (SD 9.9). Table 1 outlines characteristics of diagnostic biopsies. Seventeen of 40 patients (43%) were upgraded and 2 of 26 (8%) were downgraded at nephroureterctomy (NU). Overall, bG did agree with pG (p=0.006) or stage (p=0.025). The predictive value of low bG for non-muscle invasive disease at NU was 80% and the predictive value of high bG for muscle invasive disease at NU was 62%. Age, sex, clinical stage, multifocality were not associated with change in bG. In cTx patients, tumor surface area was significantly associated with higher pT stage (p=0.0492), and tumor volume was marginally associated (p=0.0508). Patients with low bG found to have advanced stage at NU had a significantly (p=0.049) higher tumor surface area (mean 30.1 cm^2, 51.1) than those not upstaged (mean 10.8cm^2, 8.5), and were more likely to have an index tumor dimension >3.8cm.

Conclusion: Overall, low bG can predict candidates without muscle invasive disease for nephron sparing treatments in 80% of cases. In patients with low bG, tumor dimension <3.8cm (cTx, cTa, cT1, cTis) and tumor surface area <8.1cm^2 (cTx), may help select those least likely to be upstaged.

UP.133, Table 1. Pathologic Characteristics at Diagnostic Biopsy

	N (%)		N (%)	
Clinical Stage			Pathologic stage	
Tx (unable to assess) Non-Invasive (Ta-1,cis)	30 (46) 35 (53)		Ta T1	26 (40) 16 (24)
Invasive (T2+)	1 (1)		T2+	24 (36)
Grade	40 (61) 26 (39)		Pathologic grade	
Low			Low	25 (38)
High			High	41 (62)
Multifocality				
No				
Yes				
	Mean	**SD**	**Median**	**Range**
Surface area (cm^2)	14.9	26.3	8.4	0.4-210.6
Index volume (cm^3)	47.9	187.5	12.2	0.1-1474.2
Aggregate volume (cm^3)	48.7	187.4	12.2	0.1-1474.2
Index diameter (cm)	4.7	3.5	3.8	0.7-23.4

UP.134

Surgical Choices for Bilateral Synchronous Sporadic Renal Cell Carcinoma

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Introduction and Objectives: To discuss the selections of surgical treatment of bilateral synchronous sporadic renal cell carcinoma (BSSRCC).

Materials and Methods: A total of 17 cases of BSSRCC, including 14 males and 3 females were treated from 1994-2008 in our hospital. Lumbago occurred in 5 cases and hematuria in 2 cases. All the cases had the definite diagnoses of bilateral renal masses confirmed with the examination of CT, Intravenous urogram, ultrasound and/or MR. Seven cases received bilateral operation simultaneously and the other 10 cases received staging operation. Radical nephrectomy (RN) on one side and nephron-sparing surgery (NSS) on the opposite side were conducted in 10 patients. NSS on both sides was performed for 7 patients.

Results: There were 17 cases that received 27 operations in all. The average operative time was 263±50mins in simultaneous operation and 154±42mins in staged operation. The length of hospital stay was 11.4±1.9d for simultaneous operation and 7.4±1.3d for staged operation. There were 13 cases that were followed up for 6-41months. The creatinine levels increased in 3 cases with no need for hemodialysis. One patient had lung metastasis 14 months later and died in 25 months. One patient presented with local recurrence and died 38 months later. One patient died of cerebral accident.

Conclusion: Selection of an appropriate surgical method (RN or NSS) and sequence the treatments for the tumor in other side should be based on the location and size of tumor and general condition of patient. While both maintaining the renal function and treating tumor must be considered in managing BSSRCC, tumor control is more important.

UP.135

Robot-Assisted Laparoscopic Partial Nephrectomy: Oncological and Functional Outcomes of 100 Cases

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Introduction and Objectives: Partial nephrectomy (PN) is currently the reference treatment for renal tumors of less than 4 cm in size (T1a). This technique achieves comparable oncological outcomes to those of radical nephrectomy, while ensuring better nephron preservation. Laparoscopic PN is difficult to perform, with the main consequence being an increase in warm ischemia time. It is undertaken only by certain trained teams. In facilitating the surgical procedure,

robotics combines the benefits of minimally invasive and conservative surgery. We report here 7 years of experience with 100 robot-assisted laparoscopic partial nephrectomies (RALPN) performed in our hospital.
Materials and Methods: Between March 2005 and October 2012, 100 patients underwent RALPN for a suspect solid renal mass amenable to conservative treatment. The epidemiological and surgical data and the oncological and functional outcomes were collected and analyzed.
Results: Sixty-eight men and 32 women underwent surgery. The mean age was 59.6 years. Mean operative time was 141.3 minutes with a warm ischemia time of 21.2 minutes. Mean tumor size was 27.4 mm with 81% malignant tumors, of which 60% were clear cell carcinomas. Surgical margins were healthy in 100% of cases. After a mean follow-up of 25.7 months, no recurrence was noted. On a functional level, there was no short-term or long-term impairment of renal function. The frequency of postoperative surgical complications was estimated as 8%: these comprised 3 arterial pseudoaneurysms, 4 episodes of bleeding from the cut surface and 1 conversion to laparotomy.
Conclusion: Robotics enables the surgeon to operate with dexterity, meticulousness and precision. These qualities are essential in conservative renal surgery and make RALPN a safe and effective technique.

UP.136
Prognostic Factors for Survival in Patients with Metastatic Renal Cell Cancer Treated with Sunitinib
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Introduction and Objectives: Sunitinib is approved worldwide for the treatment of metastatic renal cell carcinoma (mRCC). However, not all patients respond to treatment, and some may benefit more from other novel therapeutic strategies. To date, in the case of novel agents, only a few predictive factors have been reported. To optimize and individualize treatment in mRCC, comprehensive, user-friendly prognostic marker is urgently required for selecting patients who will benefit most from sunitinib.
Materials and Methods: A total of 42 consecutive mRCC patients treated with sunitinib between December 2008 and September 2011 were included in this study. Logistic regression analysis estimated the relative importance of non-tumor variables and selected adverse events as predictive factors for sunitinib responses.
Results: In the multivariate analysis, the features associated with significantly longer progression-free survival were normal C-reactive protein (P = 0.0059) and the development of subclinical hypothyroidism during treatment (P = 0.0091). These were used as risk factors to categorize patients into three different groups: those with no risk factors (low risk), one risk factor (intermediate risk), and two risk factors (high risk). The progression-free survival rate was 88, 23 and 13% for the low-, intermediate- and high-risk groups, respectively. There was a significant difference in the survival profiles of the three risk groups (P<0.02).
Conclusion: Normal C-reactive protein levels and hypothyroidism seem to represent significant predictive factors for superior progression-free survival in mRCC patients treated with sunitinib. Our simple risk classification system for mRCC patients may be useful for patient counseling, treatment decision, and patient follow-up planning.

UP.137
Comparison of Oncologic Outcomes between Laparoscopic and Open Nephroureterectomy for the Management of Pt3 Upper Tract Urothelial Carcinoma
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Introduction and Objectives: Laparoscopic nephroureterectomy (LNU) was selectively performed in favorable-risk patients at an earlier stage upper tract urothelial carcinoma (UTUC) commonly. However the studies of oncologic outcomes on high stage tumors performed laparoscopic surgery are scarcer. To determine the oncologic safety of LNU of high stage UTUC, we compared the oncologic outcomes of LNU versus open nephroureterectomy (ONU) in patients with pT3 UTUC in single institution.
Materials and Methods: Between January 2001 and December 2010, a total of 67 patients underwent radical nephroureterectomy for pT3 UTUC including 49 LNU and 18 ONU at our institution. Routine laparoscopic nephrectomy was performed via the transperitoneal approach and the distal ureter was managed by the open bladder cuff resection. Regional lymphadenectomy was performed if patients were suspected of lymphadenopathy on the preoperative imaging or during surgery. Oncologic outcomes were reviewed and analyzed retrospectively.
Results: During the mean follow-up period of 34.1 months for LNU and 52.6 months for ONU, urothelial recurrence was recognized in 9 patients (18.4%) after LNU at a median follow-up 11 months compared with 4 patients (22.2%) after ONU at a median follow-up 7 months. Non-urothelial recurrence developed in 15 patients (30.6%) after LNU at a median follow-up 10 months compared with 8 patients (44.4%) after ONU at a median follow-up 11.5 months. The frequency of urothelial recurrence and non-urothelial recurrence did not differ significantly between LNU and ONU. Port site metastasis was not developed in all patients. There were no statistically significant differences in overall survival and cancer-specific survival between LNU and ONU. On univariate analysis, lymphadenopathy, lymphovascular invasion, positive surgical margin and lymph node involvement of cancer (N+) affected cancer-specific survival (p=<0.001, 0.001, 0.004 and 0.008, respectively). On multivariate analysis, lymphadenopathy and lymphovascular invasion were identified as independent predictive factors for the cancer-specific survival (p=0.005 and 0.009, respectively).
Conclusion: In the surgical management of high-stage upper urinary tract urothelial carcinoma, laparoscopic nephroureterectomy can be a minimally invasive alternative to open nephroureterectomy in regard of comparable oncologic outcomes.

UP.138
Survival Outcomes in Patients Undergoing Neoadjuvant Chemotherapy for Upper Tract Urothelial Cell Carcinoma
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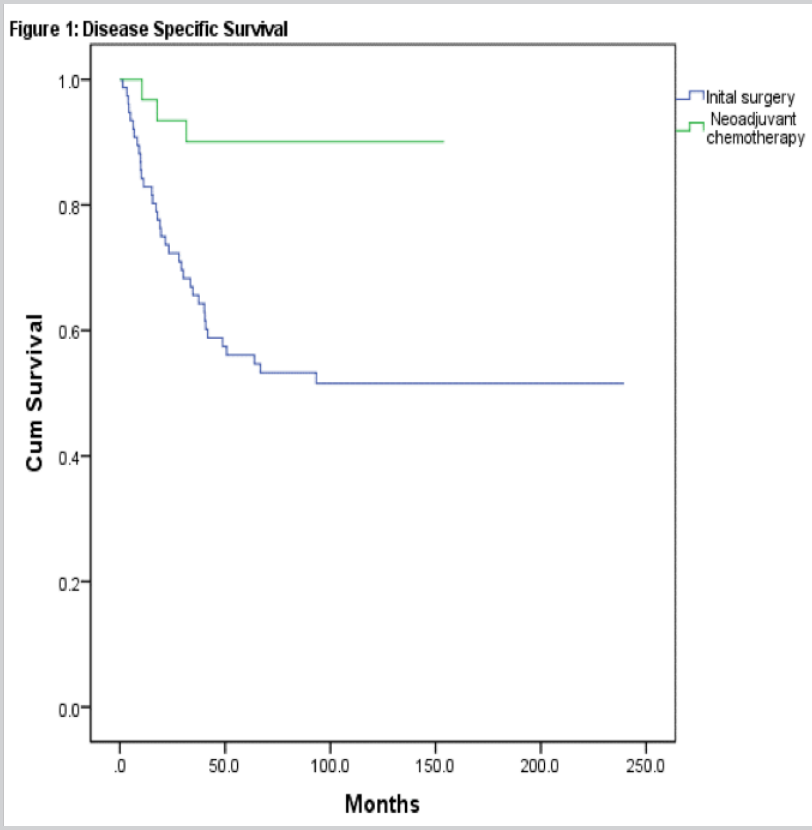
Introduction and Objectives: High-grade upper tract urothelial carcinoma (UTUC) is frequently upstaged at surgery and has uniformly poor survival rates. Neoadjuvant chemotherapy (NAC) may provide an avenue to improve clinical outcomes in these patients prior to loss of renal function after nephroureterectomy.
Materials and Methods: We performed a retrospective review of patients with high

risk UTUC who received NAC followed by surgical extirpation from 2004-2008, a time period during which NAC was uniformly offered to patients. The study group was then compared to a historical cohort of similar risk patients who underwent initial surgical treatment from 1993-2004.

Results: Of the 120 patients, 31 patients with high-risk cN0 disease received NAC, 76 had initial surgery, and 13 had surgical consolidation of clinically involved lymph nodes after chemotherapy. Those receiving NAC had an improved OS and DSS (p=0.018 and p=0.0005, respectively). The 3 and 5 year DSS for cN0 patients receiving NAC was 90% and 90% (OS 87% and 80% respectively) with median follow-up of 64 months. The 3 and 5 year DSS and OS for the historical group was 70% and 62%, with median follow-up of 87 months. The two groups had similar demographics and clinical features, except for a higher proportion of sessile tumor architecture in the NAC group (p=0.021). Full dose cisplatin or high dose ifosfamide based chemotherapy was given to 22 (71%) patients, while 4 (13%) received a modified dose of cisplatin, and 5 (16%) received a nephron sparing combination. Pathologic downstaging to <=pT1N0 was significantly associated with NAC (65% vs. 26% initial, p=0.004). The 13 patients with node positive disease at presentation received NAC followed by surgical consolidation with median OS 78 months. The 3 and 5 year DSS was 77% and 67% (OS 69% and 60% respectively).

Conclusion: Neoadjuvant chemotherapy improves survival in patients with UTUC compared with historical expectations. Patients with high-risk UTUC should be considered for neoadjuvant chemotherapy especially considering the limitations of administering curative cisplatin-based chemotherapy after nephrectomy.

UP.138, Table 1. Figure 1



UP.139

Dose Intensity and Tolerability in Sunitinib Therapy for Metastatic Renal Cell Carcinoma

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Introduction and Objectives: Sunitinib is one of multikinase inhibitors and it is used as first- and second-line therapy for patients with metastatic renal cell carcinoma (mRCC). However, it is often difficult to maintain initial dosage due to various significant adverse events. Furthermore, optimal dosage of sunitinib in Asian patients is debatable. So, we investigated the relationship between 1-cource dose intensity (DI) and clinical outcome or adverse events in this therapy.

Materials and Methods: We investigated 31 mRCC patients treated with sunitinib. Mean 1-cource DI was 835.7 mg, and median progression-free survival (PFS) time was 271 days. The most frequent severe (grade 3/4) adverse events were decreased platelet (7 patients) and hand-foot syndrome (4 patients). There were 5 patients whose Karnofsky-performance status was 70 or lower, and all of them could not continue sunitinib therapy due to adverse events.

Results: Twenty patients needed temporary withdrawal or dose reduction of sunitinib due to adverse events. Mean 1-cource DI of these patients before sunitinib withdrawal or reduction was 899.4 mg, which was higher than that of all patients. No significant association was noted between 1-cource DI and PFS. When we considered the relationship between 1-course DI per body surface area and tolerability of sunitinib, mean 1-cource DI /m^2 of all patients was 505.3 mg/m^2. The 1-cource DI /m^2 in patients who received scheduled therapy (more than 12 months) was significantly lower than that in patients who needed to decrease and/or stop this therapy (492.3 versus 516.7 /m^2, p=0.028).

Conclusion: Our study showed that the 1-course DI was not associated with PFS. On the other hand, 1-course DI per square correlated to drug tolerability. Our results suggest that the continuation of sunitinib therapy even in a lower dosage may be useful for avoiding adverse events in patients with mRCC.

UP.140

Retroperitoneal Laparoscopic Partial Nephrectomy for Small Renal Masses with Extrarenal Involvement

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Introduction and Objectives: Partial nephrectomy is routinely performed for managing small renal masses while radical nephrectomy remains the standard in the management of renal tumors with extrarenal involvement. Data on long-term outcomes regarding laparoscopic partial nephrectomy for small renal tumors with

extrarenal involvement (pT3) remains limited. We present our experience in the management and outcomes of pT3a lesions using a retroperitoneal technique to perform laparoscopic partial nephrectomy (LPN).
Materials and Methods: We retrospectively reviewed 226 consecutive cases of retroperitoneal LPN between February 2002 and February 2012. Only patients with pT3a tumors were included in our analysis. Clinical, demographic, Charlson Comorbidity Index (CCI), operative, perioperative, and oncologic outcomes were assessed with long term follow-up.
Results: Eight patients (3.5%) were found to have pT3a on final pathology. All preoperative imaging had cT1a features prior to LPN. Mean age was 64.1 years (41.8-72.6) and mean CCI was 3.75. Mean operative time, EBL, and warm ischemia times were 255.7 minutes (170-372), 288 ml (20-500), and 25.8 minutes (0-60) respectively. Preoperative and postoperative renal function were determined using the Cockcroft-Gault equation and were 88.7 mg/dL and 73.0 mg/dL respectively. A total of 10 tumors were removed. Mean tumor size was 2.15 cm (0.8-6.0). All tumors had negative surgical margins at the time of resection. Seven patients had involvement of the peri-renal fat and one patient had involvement of a renal sinus vein. Six tumors represented classical clear cell carcinoma, 3 tumors represented chromophobe cell carcinoma, and 1 tumor represented papillary cell carcinoma. Mean Fuhrman Grade was 2.3 (1-4). One patient was deceased at 21.5 months after surgery with no evidence of disease recurrence. Mean follow-up after treatment was 42.4 months (2.1-88.7) and cancer specific survival was 100%.
Conclusion: By maintaining adequate negative surgical margins and removing the peri-renal fat above small renal masses, laparoscopic partial nephrectomy can be utilized to provide good oncologic control for cT1a lesions later found on pathology to have external involvement.

UP.141
Retroperitoneal Laparoscopic Partial Nephrectomy pT1b and above Lesions
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Introduction and Objectives: Partial nephrectomy is a standard therapy in managing T1a renal masses. Long-term outcomes regarding laparoscopic partial nephrectomy for non-T1a lesions remains limited in the urologic literature. Here we present our experience in managing pathologically confirmed T1b and above lesions.
Materials and Methods: We retrospectively reviewed 226 consecutive cases of retroperitoneal laparoscopic partial nephrectomy between February 2002 and February 2012. Only patients with pT1b and above lesions were included in our analysis. Clinical, demographic, Charlson Comorbidity Index (CCI), operative, perioperative, and oncologic outcomes were assessed with long-term follow-up.
Results: Eighteen patients (8.0%) met inclusion criteria. Mean age was 63.68 years. Mean CCI was 2.3. Mean operative and warm ischemia times were 252 (170-372) minutes and 33 (0-60) minutes, respectively. Mean EBL was 333.5 ml (20-700). Preoperative and postoperative renal function were determined using the Cockcroft-Gault equation and were 109.1 mg/dL and 84.1 mg/dL. A total of 20 tumors were removed. Mean tumor size was 3.7 cm (0.8-8.0). All tumors had negative surgical margins at time of resection. Pathologic tumor staging revealed pT1b (45%), pT2a (5%), pT3a (50%). Eleven tumors (55%) represented classical clear cell renal carcinoma, 5 tumors (25%) represented papillary renal carcinoma, and 4 tumors (20%) represented chromophobe renal carcinoma). Mean follow-up after treatment was 38.4 months (0.5-96.5) and cancer specific survival was 100%.
Conclusion: By maintaining adequate negative surgical margins and removing all peri-renal fat around tumors, laparoscopic partial nephrectomy can provide good long-term oncologic outcomes for T1b and above lesions.

UP.142
Laparoscopic Surgery for Renal Cell Carcinoma and Upper Urinary Tract Cancer in the Octogenarian
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Introduction and Objectives: Japan's population is aging faster than that of any other country in the world. In general, patients aged 80 and over are found to have a significantly higher risk of any complication with surgery. We retrospectively evaluate the perioperative outcome of laparoscopic surgery for renal cell carcinoma and upper urinary tract cancer in octogenarian.
Materials and Methods: Between 2001 and 2012, thirty-eight patients aged 80 and over (13 renal cell carcinomas and 25 upper urinary tract cancers) underwent radical laparoscopic surgery at our institution. The procedures performed included laparoendoscopic single-site(LESS) surgery (five patients). Three-hundred-three patients aged < 80 years (197 renal cell carcinomas and 106 upper urinary tract cancers) undergoing laparoscopic surgery were analyzed for comparison.
Results: The octogenarian group had a similar blood loss (renal cell carcinoma: 83 vs. 138ml, upper urinary tract cancer: 280 vs. 327ml), perioperative complications (renal cell carcinoma: 0 vs. 10%, upper urinary tract cancer: 8 vs. 13%), operative time (renal cell carcinoma: 229 vs. 229min, upper urinary tract cancer: 305 vs. 308min) compared with the younger patients.
Conclusion: Laparoscopic radical surgery for renal cell carcinoma and upper urinary tract cancer was safe and feasible option in octogenarian patients with renal and ureter cancer.

UP.143
Spindle and Cuboidal Renal Cell Carcinoma: Clinical Results and Long-Term Follow Up
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Introduction and Objectives: Mucinous tubular and spindle cell carcinoma (MTSCC) has been integrated recently into the World Health Organization classification. The histopathologic findings have been well characterized and include interconnecting tubular and spindled cells with low-grade nuclei within myxoid/mucinous stroma and these tumours indicate differentiation toward distal nephron segments, possibly the collecting duct or the loop of Henle. We present the large series of this subtype of renal cell carcinoma, which is a distinct morphological entity and is very rare.
Materials and Methods: Fifteen cases of spindle and cuboidal renal cell carcinoma were found among 16000 primary renal cell tumours in Pilsen routine and consultation files.

Results: The patients were nine men and six women. They ranged in age from 22 to 65 years (mean 58.6). It was performed nephrectomy in 13 cases (4 of them by laparoscopy). Tumours sizes 22-130mm (mean 86mm) were localized centrally. One left open resection (tumour 42 mm) was combined with adrenalectomy and paraaortal lymphadenectomy, in adrenal gland and lymph nodes were metastases of stomach cancer. In addition to all previous published cases MTSCC we observed an association of nephrolithiasis in three cases (20%). A previously unreported feature is the occurrence of a clear renal cell carcinoma component in one of our cases. Nine (60%) of our patients are currently well without signs of recurrence or metastasis, one (7%) had metastasis in a regional lymph node at the time of nephrectomy and died 26 months later, three (20%) died of an unrelated condition, and two were lost to follow-up. The follow up is 96±34 months.
Conclusion: We present 15 cases of MTSCC, which is believed to be a distinctive morphological entity. We observed an association with nephrolithiasis in three of our cases; moreover, one of our tumours had a clear renal cell carcinoma component. Only one malignant course was observed.

UP.144
The Treatment of Multiple Bilateral Renal Angiomyolipomas Associated with Tuberous Sclerosis Complex
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Introduction and Objectives: To discuss the treatment of renal angiomyolipomas developed in patients with tuberous sclerosis complex (TSC).
Materials and Methods: From 1998 to 2010, a total of 14 patients with tuberous sclerosis complex were admitted to our hospital for renal angiomyolipomas (AML). There were 5 males and 9 females respectively, the mean age was 36.8 years (ranged from 18 to 62). Nine patients detected AML during physical examination (PE) while 5 patients went to emergency for acute hemorrhage due to spontaneous rupture of renal AMLs. Renal lesions were assessed by ultrasonography and abdominal computed tomography. All patients were confirmed TSC according to the 1998 Tuberous Sclerosis Complex Consensus Conference.
Results: Both abdominal ultrasonography and computed tomography revealed the presence of AML in all patients. The maximum size of tumors ranged from 3 to17.5 cm. Overall, surgeries were performed on nine patients. Unilateral nephrectomy was performed in 4 patients with 3 cases of emergency operation due to life-threatening bleeding following spontaneous rupture of AML and the other cases for large lesions (>8 cm). Unilateral tumor enucleation in right side with contralateral tumor enucleation 4 months later was performed in 1 patient. Unilateral partial nephrectomy/tumor enucleation was performed in 4 cases for large lesions (≥5cm) of prophylaxis. The other 5 cases were followed-up for one to three years, one patient died of long-term hypotension and shock caused by spontaneous hemorrhage. The kidney reservation rate was 88.9% (8/9) in PE group, which is significantly higher compared with 25% (1/4) of spontaneous rupture group (P<0.05).
Conclusion: The management of renal angiomyolipoma associated with TSC is different from solitary sporadic angiomyolipoma. Treating plan should not only focus on treating the tumors, but also to fully evaluate the risk of hemorrhage and take effective measures to avoid nephrectomy.

UP.145
Reduced Port Surgery for Prostate Cancer Is Feasible: Comparative Study of 2-Port Laparoendoscopic and Conventional 5-Port Laparoscopic Radical Prostatectomy
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Introduction and Objectives: While Laparoscopic radical prostatectomy (LRP) is standard practice, efforts have been focused in developing a single port surgery for cosmetic reasons. However, this is still challenging nature of the surgical procedures. We have therefore focused on reduced port surgery. In this study, we compared -port laparoendoscopic radical prostatectomy (2-port-RP) and LRP and evaluated the potential advantages of each.
Materials and Methods: From January 2010 to December 2010, all 23 patients underwent LRP. Starting November, 2010, when we introduced the reduced port approach, we performed this procedure for 22 consecutive patients diagnosed with early-stage prostate cancer (cT1c, cT2N0). The patients were matched 1:1 to 2-port RP or LRP for age, preoperative serum PSA level, clinical stage, biopsy and pathological Gleason grade, surgical margin status, pad-free rates and post-operative pain.
Results: There was a significant difference in operative time between the 2-port-RP and LRP groups (286.5±63.3 and 351.8±72.4 min P=0.0019, without any variation in blood loss (including urine) (945.1±479.6 vs 1271.1±871.8ml: P=0.13). The Foley catheter indwelling period was shorter in the 2-port-RP group, but without significance (5.6±1.8 vs 8.0±5.6 days: P=0.06) and the total perioperative complication rates for 2-port-RP and LRP were comparable at 4.5% and 8.7% (P=0.576). There was an improvement in pad-free rates up to 6 months follow-up (P=0.090), and significantly improvement at 1 year (P=0.040). PSA recurrence was 1 (4.5%) in 2-port-RP and 2 (8.7%) in LRP. Continuous epidural anesthesia was used in most of LRP patients (95.65%) and in early 2-port-RP patients (40.91%). In these patients, average total amount of Diclofenac sodium was 27.78mg/patient in 2-port-RP and 50.00mg/patient in LRP.
Conclusion: Thus the reduced port approach is as efficacious as conventional LRP in terms of many outcome measures, with significant cosmetic advantages and reduction in post surgical pain. This method can be readily performed safely and therefore can be recommended as a standard laparoscopic surgery for prostate cancer in the future.

UP.146
Laparoscopic Management of Retrocaval Ureter: Our Experience
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Introduction and Objectives: The aim of this study was to report our 7-year experience in laparoscopic management of retrocaval ureter.
Materials and Methods: Data from 15 patients of retrocaval ureter were reviewed. Intravenous urography, Computed tomography urography and retrograde pyelography were used for confirming the diagnosis. All of the patients were symptomatic and underwent surgery.
Results: The mean age of the patients was 26 years (range: 6 to 46 years). Ten patients (66%) were men. The clinical manifestations were recurrent urinary tract infection in 4 (27%), right flank pain in 9 (60%), and gross hematuria in 2 (13%). All of the patients were managed

with transperitoneal laparoscopic ureteroureterostomy. The follow-up intravenous urography or Isotope urogram showed improvement in renal function.
Conclusion: In our patients, the most common presentation was pain followed by recurrent urinary tract infections. Laparoscopic ureteroureterostomy is a safe and successful management option. An improvement in the renal function can be noted after surgery. The technical aspects of this procedure will be highlighted.

UP.147
Laparoscopic Surgery in a Newly Established Urology Department: Twenty Months of Operation
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Introduction and Objectives: The incorporation of laparoscopic techniques in clinical urological practice represents an increasingly accepted and common option. The opening of a new hospital is a challenging process for all of the professionals involved. Our goal was to analyze the laparoscopic activity in our Service, including its procedures, its complications and their resolutions.
Materials and Methods: We analyzed data on laparoscopic procedures performed in the Department of Urology at the Los Arcos del Mar Menor Universitary Hospital from its opening date in March 2011 until December 2012. The catchment area of 102,000 inhabitants expanded each summer. The Urology team consisted of four urologists. Data were obtained from the electronic records (Selene ®) and we evaluated several variables, including the following: age, sex, diagnosis, type of surgery, hospital stay, operative time, American Society of Anesthesiologists Classification (ASA) risk and complications using the Clavien score classification.
Results: We have performed 71 laparoscopic procedures, distributed as follows: 40 laparoscopic radical prostatectomy (LRP), 11 laparoscopic radical nephrectomy (LRN), 5 laparoscopic nephroureterectomy (LNU), 5 laparoscopic partial nephrectomy (LPN), 7 laparoscopic pyeloplasty (LP), 2 laparoscopic radical cystectomy (LRC), and 1 orchiectomy for LESS. The average age of the series was 55.08 (21-83) years, with a sex distribution of 83% male and 7% female. The average series stay was 4.1 (2-11) days, and the mean operating time for the PR and NF / NUL was 195 min and 180 min, respectively. There were three cases (4.2%) of reconversion into open surgery, and 6% of cases exhibited major complications based on the Clavien classification (IIIb, IV). These complications appeared in patients with higher ASA classifications.
Conclusion: Elective laparoscopic surgery is a treatment that should be included in the urologist's armamentarium in some cases of pathology. It is necessary to demonstrate the ability and produce the outcomes supporting the performance of laparoscopic techniques. Based on the analysis of results in our practice, we determined that there was a low rate of complications, which is in accordance with the requirements for a Center of Excellence.

UP.148
Comparison of Aspiration and Laparoscopic Excision in the Management of Symptomatic Simple Renal Cyst
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Introduction and Objectives: Simple renal cyst is a benign disease that may needs intervention when become symptomatic. Treatment options include aspiration and injection of sclerosing agents or excision. We evaluated and compared the efficacy and safety of aspiration/injection and laparoscopic excision.
Materials and Methods: Between September 2007 and March 2012, a total of 94 patients, 61 women and 33 men, were treated for symptomatic simple renal cyst. Mean patient age was 46 (29 to 67), and mean cyst diameter was 67mm (53-96). They randomly assigned into two groups. Group A (n=43) underwent aspiration and ethanol injection and group B (n=51) laparoscopic excision. All cases were followed for post op pain, fever, infection, analgesic requirement, and recurrence.
Results: After procedure patients followed 3 days for early complications (fever, pain, infection), and then on 6, 12, 24, and 36 weeks ultrasound was done for recurrence of diseases. Early complications were more common in group B (29 vs. 13), but recurrence rate was more in group A (11 vs. 4).
Conclusion: Symptomatic renal cyst are managed better with excision than aspiration, however, it requires hospitalization, anesthesia and early post-op analgesic administration.

UP.149
Laparoscopic Management of Urachal Remnants: Surgery Using the Ligasure Vessel Sealing System
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Introduction and Objectives: Management of urachal remnants using laparoscopy has become common. A transperitoneal approach is often used in surgery, with the peritoneum eventually dissected from the transversalis fascia. It is questionable whether the dissected peritoneum needs to be repaired, but we believe that suture is ideal. In this study, we describe a novel laparoscopic technique that allows for simple suturing of the dissected peritoneum using a LigasureTM.
Materials and Methods: Between October 2008 and September 2012, eight patients (mean age 30.1 years old) with symptomatic urachal cysts underwent laparoscopic radical excision of the urachal remnant using our new technique. Due to the suppleness of the peritoneum, the urachal remnant and attached tubular structures over the peritoneum can be retracted posteriorly and dissected from the abdominal wall with a LigasureTM in a manner that allows the peritoneum to be sealed. We retrospectively reviewed perioperative records to evaluate complications and outcomes of this procedure.
Results: Laparoscopic management of urachal remnants was successfully performed in all patients. The mean operation time and estimated blood loss were 166.1 (range 103 - 212) min and 13.8 (range 5 - 50) ml, respectively. Suturing of the entire length of the dissected peritoneum was not necessary because of sealing with the LigasureTM, except for the bladder dome and umbilicus. This technique was feasible and timesaving, especially in younger patients with a suppler peritoneum than that in older patients. There were no intraoperative and postoperative complications and no transfusion was needed.
Conclusion: Laparoscopic management of urachal remnants using a LigasureTM is an effective and timesaving procedure.

UP.150
Transurethral Enucleation and Resection for Prostatic Hyperplasia Beyond 80 cc
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Introduction and Objectives: Transurethral resection of the prostate (TURP) is the standard treatment for men with benign prostatic hyperplasia, but because of the risks of bleeding and TUR syndrome, patients with large prostates are usually offered open removal of prostate tissue. However, the need for an abdominal incision and prolongation of the hospitalization and recovery periods are major disadvantages.
Materials and Methods: We assessed 43 patients with prostates of >80 cc who underwent transurethral enucleation and resection of the prostate (TUERP) between January 2008 and December 2012. In TUERP, subtotal enucleation is performed with Olympus detaching blade, and this is followed by removal of the prostatic tissue by TURP.
Results: The mean preoperative total prostate and adenoma volumes were 96.4 and 56.3 cc, respectively. The mean weight of removed prostate tissue was 51.4 g. The mean duration of surgery was 93 min. The mean decrease in the level of hemoglobin was 0.4g/dl. At preoperative baseline the mean symptom score was 21.4, mean peak urinary flow rate 7.6 cc/s, and mean post-void residual urine volume 155 cc. At 3 months postoperatively the mean symptom score was 6.0, mean peak urinary flow rate 13.6 cc/s, and mean post-void residual urine volume 10 cc. Significant improvements in all parameters were observed after surgery. There was a significant reduction in prostatic volume (preoperative, 96.4 cc; postoperative, 12.4 cc), and there was a significant reduction in PSA level (preoperative, 10.6 ng/ml; postoperative, 1.4 ng/ml). There were no major complications, and no patients developed transurethral resection syndrome or required blood transfusion.
Conclusion: The short-term outcomes showed that this technique was a suitable alternative to open prostatectomy and TURP.

UP.151
Percutaneous Nephroscopic Management of an Isolated Giant Renal Hydatid Cyst Guided by Single-Incision Laparoscopy Using Conventional Instruments (Santosh-PGI Technique)
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Introduction and Objectives: Hydatid disease is an endemic disease especially in sheep-rearing areas. Isolated renal hydatid is a rare presentation. We report a novel technique of percutaneous management of a giant renal hydatid cyst with Single-Incision laparoscopic assistance.
Materials and Methods: A 21-year-old lady from rural India presented with pain, lump in right side of abdomen. On examination a large lump was present in the right lumbar area, MRI abdomen revealed a large multi-loculated cyst with cyst in cyst appearance suggestive of hydatid disease. Hydatid serology was also positive. She was started on albendazole and taken up for surgery after 4 weeks. The patient was turned to left lateral position, and pneumoperitoneum was created. A 2cm incision was made along the upper border of the umblicus. Three trocars, one 10mm and two 5 mm were placed through the incision. Colon overlying the cyst was mobilized using conventional laparoscopic instruments. The cyst was punctured with a needle under laparoscopic guidance. The guidewire was then inserted and the tract was dilated with Amplatz dilators. Two separate camera screens were used, one for laparoscopy and the other for hydatid-cystoscopy. A 24Fr nephroscope was inserted into the cyst and all of the cyst contents were aspirated out till clear cyst wall could be seen. The endocyst was removed using grasping forceps through the nephroscope. Deroofing of the cyst was then performed and a 24 Fr Portex drain was placed.
Results: Postoperatively, patient had urinary leak from the drain when retrograde pyelogram was repeated and this time it showed a communication of the cyst cavity with the superior calyx. A double J stent was left in situ. After 24 hours of stenting, drain output reduced to negligible and drain was removed on the 4th post-operative day and patient was discharged the next day. Follow-up MRI revealed collapsed cyst wall with no recurrence.
Conclusion: Combined single site laparoscopy and percutaneous nephroscopic management of a hydatid cyst is safe and effective.

UP.152
Laparoscopic Single Site Synchronous Bilateral Cortex Preserving Adrenalectomy Using Conventional Ports and Instrumentation in a Patient with Large Bilateral Adrenal Pheochromocytomas
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Introduction and Objectives: Laparoendoscopic single site surgery is being adapted for widespread indications with its attractive benefits of minimal invasiveness. However cost of the single incision multi-instrument access port has precluded its widespread acceptance in the developing world. We report synchronous bilateral adrenalectomy for bilateral large adrenal pheochromocytomas using a modified technique of LESS surgery using conventional laparoscopic ports and instruments (SIMPLE- single incision multiple port laparoendoscopic surgery)
Materials and Methods: A 29-year-old lady presented with accelerated hypertension, headache, palpitations and sweating. CECT showed bilateral heterogeneous suprarenal masses which showed uptake on PET-CT done using 68Ga DOTATATE with no evidence of metastases. Biochemical workup showed elevated plasma metanephrines and normetanephrines. These findings were suggestive of bilateral pheochromocytomas. Procedure: After creating pneumoperitoneum using verres needle with the patient in right flank position, a 2 cm incision was given at superior border of umbilicus and three conventional laparoscopic ports were introduced into the peritoneum (one 10mm and two 5mm ports). Right cortex preserving adrenalectomy was done after developing the plane between the tumor and the adrenal gland. Then the position was changed to left flank position and cortex preserving adrenalectomy could similarly be be accomplished on this side as well through the same port.
Results: The total operative time was 110 minutes. The estimated blood loss was minimal, and there were no perioperative complications.
Conclusion: Single incision multiport laparoendoscopic surgery (SIMPLE) can be safely used for bilateral adrenalectomy for bilateral pheochromocytomas. This modification holds promise with its minimally invasive nature and lower cost.

UP.153

Percutaneous Endoscopic Retroperitoneal Cryoablation of Renal Tumors

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Introduction and Objectives: Early diagnosis of malignant kidney tumors significantly affects the accuracy of the prediction of the clinical course and outcome of the disease, and timely surgical treatment using the latest minimally invasive techniques ultimately determine the quality of life in the postoperative period and the very survival.
Materials and Methods: We used minimally invasive treatment of early stage renal tumors consisting in percutaneous endoscopic retroperitoneal dissection of the kidney tumor, and a biopsy of the tumor tissue cryoablation carrying ultra-low temperatures (-170 - 190 Celsius degrees). Preoperative diagnosis is carried out and ultrasound screening study with subsequent performance of multislice computed tomography with bolus enhancement. This treatment is used on 24 patients. The age of patients ranged from 34 to 75 years. Endoscopic cryoablation were small in size (within 1.0 x 3.5 cm in diameter) on extra localized renal tumor. Endoscopic intervention lasted an average of 40 minutes. Intra-and postoperative complications were observed.
Results: Our observation of patients in the immediate and late postoperative period showed the clinical effectiveness of all of our organ of interventions on the comparability of their radicalism with traditional open surgery - partial nephrectomy. However, endoscopic cryoablation has been much less traumatic and almost no intra-or postoperative complications. Length of stay of patients was on average 4-5 days. Control examination was carried out by means of ultrasonic monitoring and re-multislice computed tomography in the period of 2-3 months after surgery.
Conclusion: Percutaneous endoscopic retroperitoneal cryoablation of renal tumors is a highly effective, minimally invasive treatment for organ preservation treatment of early stage of renal tumors.

UP.154

Retroperitoneal LESS Adrenalectomy: Comparison with Conventional Laparoscopic Surgery

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Introduction and Objectives: To compare the feasibility of retroperitoneal laparoendoscopic single site surgery (R-LESS) and conventional retroperitoneal laparoscopic adrenalectomy for adrenal mass.
Materials and Methods: This study was designed as a match case-controlled study from an adrenal mass of our hospital. Ten patients undergoing R-LESS adrenalectomy were compared with 10 patients undergoing conventional 3 port retroperitoneal laparoscopic adrenalectomy. Controls were matched for age, gender, side of operation, and mass size, body mass index via a statistically generated selection of all laparoscopic adrenalectomy.
Results: Mean operative time in the R-LESS group was 153.0 min compared with 114.3 min in the conventional laparoscopic group (p=0.046). There were no significant differences in mean blood loss (121.0 cc versus 115.1cc, p=0.752), and complication rate (20.0 versus 10.0%, p=0.584) between the R-LESS and conventional laparoscopic group. Postoperative pain, as measured by visual analogue scale at postoperative day 3 (3.2 versus 4.4 points, p=0.003) was significantly lower in the R-LESS group but not significant difference at day 1 (5.3 versus 5.5 points, p=0.65) and discharge (1.9 versus 2.1 point, p=0.74).
Conclusion: Retroperitoneal LESS adrenalectomy is technically feasible and offers a safe surgical option for adrenal mass, which have additional benefits of decreased postoperative pain and cosmetics, albeit with a longer operative time.

UP.155

The Outcome of Laparoscopic Retroperitoneal Ureterolithotomy for the Management of Upper Ureteral Stones Larger than 10 mm: A Comparison with Rigid Ureteroscopic Removal of Stones

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Introduction and Objectives: We evaluated the outcome of laparoscopic retroperitoneal ureterolithotomy (LRU) and compared the results with the rigid ureteroscopic removal of stones with the Lithoclast® (rigid URS) for the management of large upper ureteral stones (≥10 mm).
Materials and Methods: Thirty-seven patients undergoing rigid URS were compared with 24 patients undergoing LRU. We evaluated the outcomes of each procedure and compared the success rate according to the location (above and below the L3 level by the third intervertebral disc of the lumbar spine) and size of the stones (10-15 mm and ≥15 mm in diameter).
Results: The overall success rate for rigid URS and LRU were 70.3% (26/37) and 91.7% (22/24), respectively (p=0.059). For rigid URS, the success rate was 50.0% (8/16) and 85.7% (18/21) for stones above and below the L3 level (p=0.030), respectively, and 85.7% (23/28) and 33.3% (3/9) for stones 10-15 mm and ≥15 mm in diameter, respectively (p=0.011). For LRU, the success rate was 92.3% (12/13) and 90.9% (10/11) for stones above and below the L3 level, respectively (p=0.902), and 50.0% (1/2) and 95.5% (21/22) for stones 10-15 mm and ≥15 mm in diameter, respectively.
Conclusion: LRU demonstrated a high success rate regardless of the location and size of the stones. The outcomes with rigid URS were more varied. These results suggest that LRU is a feasible alternative for large upper ureteral stones that are 15 mm or more in size or located above the intervertebral disc between the third and fourth lumbar vertebrae.

UP.156

The Usefulness of Patient Positioning Using Gel Pad during the Laparoscopic Renal Surgery

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Introduction and Objectives: Adequate padding is one of the important factors for prevention against pressure sores/ulcers, perioperative nerve injury, and compartment syndrome which may occur during the laparoscopic renal surgery with full flank position. We compared the usefulness of padding between Gel Pad™ (Sungkwang meditech, Seoul, Korea) and cotton pad.
Materials and Methods: A total of 43 patients underwent laparoscopic renal surgery with full flank position. Twenty-one patients underwent the operation with Gel Pad™ and cotton pad (Group 1), and 22 patients with only cotton pad (Group 2). We analyzed characteristics of patients, operative time, the usage of cotton pads, the usage of plasters and perioperative position-related complications.
Results: There were no significant

difference of age, gender, body mass index and operative time between the two groups (52.4 year vs 50.9 year, p=0.635; male 17 vs 14, p=0.178; 24.4Kg/m^2 vs 25.8Kg/m^2, p=0.055; 177.1 min vs 185.9 min, p=0.277). The usage of cotton pads is significantly small in group 1 (1.6 EA vs 32.7 EA, p=0.000), but the usage of plasters is similar between two groups (387.0cm vs 554.5cm, p=0.056). Five perioperative position-related complications occurred including temporal neuropathy (n=4) and pressure sore (n=1). All complications were controlled by conservative treatment. The complication rate was similar between two groups (9.5% vs 13.6%, p=0.523). In case of using Gel Pad, it can save 31 cotton pads per operation. After 48 operations, Gel Pad was more affordable than cotton pad.
Conclusion: Patient positioning using Gel Pad is a safe and affordable way compared to a cotton pad, in the long run.

UP.157
Robot-Assisted Laparoscopic Partial Nephrectomy: Initial Clinical Experience with Da Vinci Robotic System
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Introduction and Objectives: To assess the feasibility of robot assisted laparoscopic partial nephrectomy performed using the da Vinci robotic system.
Materials and Methods: Between November 2011 and April 2013, 26 patients with solid renal masses underwent robot assisted laparoscopic partial nephrectomy using Da Vinci system using 4 arms. Twenty-five patients were cT1N0M0 whereas 1 patient had metastatic disease with compromised renal function in opposite kidney. In all patients, renal artery was clamped with bulldog. Tumor excision and intracorporeal suturing were performed entirely with telerobotics. Frozen section of margins was not done routinely. The perioperative data and pathologic results were retrospectively reviewed.
Results: Twenty patients were male and 6 were female. Age of patients ranged from 27 to73 years with median of 56 years. The mean maximum lesion diameter was 38 mm (range 12 to 67 mm). The mean operative time was 192 minutes (range 98 to 353 minutes) and the mean blood loss was 146 ml (range 50 to 700 ml). The mean warm ischemia time was 20 minutes (range 7 to 30 min). There was no conversion to open method intra-operatively. Length of hospital stay averaged 4.5 days (range 3 to 7 days). The resected lesions included clear cell renal cell carcinoma in 21 patients, papillary tumor in 2 patients, chromophobe tumor in 1 patient and oncocytoma in 2 patients. Margins were negative in all patients. At 1 month to 15 months of follow up, no local recurrence has been observed.
Conclusion: Robotic assisted partial nephectomy is feasible and can be safely performed with good oncologic outcomes. It provides the precision of open surgery with the benefits of minimal invasive surgery.

UP.158
First Clinical Experience in Salvage Prostate Cryotherapy
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Introduction and Objectives: We review the first results of recurrent prostate cancer salvage cryoablation.
Materials and Methods: On May 23rd, 2012, the first cryotherapy of prostate cancer in Lithuania was performed. Four patients with IPSS score < 12 and prostate volume < 40 ml underwent this procedure. First patient, a 71-year-old male with diagnosed prostate cancer (PCa) cT1cN0M0 Gleason 3+3=6, PSA value 8.9 ng/ml; on May 2004 he received 70 Gy 3D conformal radiotherapy. In 2012 PCa recurrence was diagnosed by DW-MRI, but PSA – 0.3 ng/ml. Second, 68 years male, with PCa cT2bN0M0 Gleason 3+3=6, PSA – 17.6 ng/ml in January 2007 received 70 Gy dose 3D conformal radiotherapy. In 2012 prostate cancer recurrence was diagnosed by DW–MRI and the nadir PSA – 2.7 ng/ml. Third, 64 year-old patient, with PCa cT3aN0M0 Gleason 3+3=6, whose on 2004 with PSA 44 ng/ml, received 70 Gy dose 3D conformal radiotherapy and neoadjuvant hormonal treatment. In 2012 local recurrence was diagnosed by DW-MRI and the nadir PSA – 5.2 ng/ml. Fourth, 71 year-old patient with, in 2001 diagnosed PCa cT2bN0M0 Gleason 3+3=6, PSA – 22 ng/ml, underwent 3D conformal radiotherapy. Disease recurrence occurred in 2012, DW–MRI showed extracapsular extension, but PSA – 0.59 ng/ml. CT, MRI, ultrasound scanning, bone scintigraphy was performed for patients before treatment. No metastasis and pathological bone changes were detected. All patients received 2-cycle cryotherapy with real-time ultrasound guidance and temperature change tracking. The described treatment scheme for these patients enables to deliver two freezing-thawing cycles with 10 probes and urethra-warming catheter.
Results: Urinal obstruction was observed after 1 week for 1 of 4 patients. He had to stay with epicistostomy and was treated by prostate transurethral resection. Six months follow-up showed one patient biochemical progression due to metastasis in lymph nodes, and he had got external beam therapy to lymph-node projection. Another 3 patients' follow-up did not show disease recurrence. All patients quality of life is the same than before cryotherapy.
Conclusion: Cryotherapy is a new treatment method of prostate cancer in Lithuania. This method is a minimally invasive procedure for the treatment of prostate cancer and it can be an alternative to traditional radical surgery and radiation therapy.

UP.159
Injection Therapy for Vesicoureteral Reflux in the Older Child and Adolescent
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Introduction and Objectives: Peri-ureteral injection with dextranomer-hyaluronic acid (Deflux) has become first line therapy for children requiring intervention for vesicoureteral reflux (VUR). Although most children receive such treatment relatively early in life, some manifest problems with urinary tract infections (UTI) affecting the upper tracts occur at a later age and thus may need aggressive intervention. We reviewed our experience with utilizing Deflux injections to treat VUR in the 10-17 year age group to determine its safety and efficacy in older children.
Materials and Methods: Our divisional database of children undergoing Deflux injection was reviewed. Results for children ages 10-17 were compared to those for children under the age of 10.
Results: A total of 126 patients have received treatment for VUR with Deflux. Of these, 15 fell into the 10-17 years age group. The distribution of reflux grades, duplicated systems, scarring and bilaterality were statistically equal between the 2 groups. In the older group, 4 patients (26%) had recurrent UTIs of whom 2 (15%) were found to have persistent VUR. They were retreated with Deflux but failed and ultimately underwent surgical

reimplantation. Only 1 patient of the remainder requires prophylactic antibiotics. In the younger age group, 46 (41%) had recurrent UTIs of whom 19 had persistent VUR. Ten of these had repeat Deflux injection with 2 (2%) going on to reimplant surgery ($p<0.02$). Postoperative hydronephrosis on post-injection renal ultrasounds was present in 33% of the older group as opposed to 11% of the younger group ($p<0.02$).
Conclusion: Periureteral injection of Deflux for VUR is safe and effective in an older group of children although there appears to have a higher rate of ultimately requiring operative reimplantation in the older group. This occurs despite the apparent equality between the 2 groups in VUR staging and characteristics. There may be undefined characteristics of the growing ureter that allow for better efficacy in smaller children to account for this difference.

UP.160
Recurrent Urinary Infections after Ureteral Reimplantation: What Has Been Missed?
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Introduction and Objectives: Failure of open ureteral reimplantation is a rare but distressing complication and there is no standard way of dealing with this problem. Purpose: To report our experience in children with recurrent urinary infections after open ureteral reimplantation.
Materials and Methods: Charts of 9 children with recurrent urinary infections after open ureteral reimlantation from Feb 2009 to Feb 2012 were reviewed. The technique of reimplantation was Gil-Vernet in 5, Cohen in 3 and Leadbetter in 1. Five patients were male and 4 were female. Their mean age at the time of presentation was 7 years (Range: 4 to 12). Their evaluations included ultrasonography of urinary system, VCUG, urodynamic study, and cystourethroscopy. Deflux® (in 3 patients) or Vantris® (in 6) were injected into the ureteral orifices. Mean follow-up was 16 months (range: 9-34).
Results: Ultrasonography showed various degrees of hydronephrosis (±hydroureter) in 15 renal units, 5 hypoplastic or scarred renal units, bladder wall thickness in 6, and mild posterior urethral dilatation in1. VCUG showed vesicoureteral reflux in all patients (G2 in 5, G3 in 6 and G4 in 3 renal units). Urodynamic studies were performed in 5 demonstrating bladder instability in 3, high detrusor voiding pressure in 3 and dyssynergia in 2. In cystourethroscopy we found wide ureteral orifices in 5, and 2 missed posterior urethral valves. Ureteral orifices were not found by cystoscopy in 2, in whom bulking agents were injected into ureteral orifices after opening the bladder. Urinary infections stopped in 7 children during follow-up.
Conclusion: Technical failure was the main reason of failed ureteral reimplantations. Voiding dysfunction and posterior urethral valves were less frequent causes. Injection of bulking agents is a reasonable salvage procedure in these patients.

UP.161
The Risk Factors and Clinical Significance of Acute Postoperative Complications after Unstented Pediatric Pyeloplasty: A Single Surgeon's Experience
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Introduction and Objectives: Concerns exist regarding the necessity to perform urinary diversion during pyeloplasty. While diversion has been reported to decrease acute complications such as anastomotic leakage, it has also been blamed for hindering healing and leading to urinary tract infection (UTI). Furthermore, in the case of stenting during pediatric pyeloplasty, additional anesthesia is required to remove the stent. We analyzed the risk factors and clinical significance of acute complications after unstented pyeloplasty.
Materials and Methods: We analyzed 285 kidney units (KUs) on which unstented pyeloplasty was performed by a single experienced surgeon between April 2002 and March 2010. Measures included preoperative factors, postoperative complications, change in postoperative differential renal function (DRF), and failure of pyeloplasty. Risk factors for acute complications requiring additional ureteral stenting and decreased DRF were analyzed.
Results: During a median follow-up period of 67.0 months, an additional ureteral stenting was required in 28 KUs (9.8%) due to the development of acute postoperative complications after unstented pyeloplasty. The incidence of acute complications increased significantly as preoperative DRF increased. Multivariate analysis revealed DRF of more than 60% was the only independent risk factor for acute complications. Postoperative decrease in DRF of more than 5% was observed in 58 KUs (22.4%) among 259 KUs analyzed. Pyeloplasty failure was observed in 10 KUs (3.5%). The development of acute complications was not a risk factor for a decrease in DRF or pyeloplasty failure.
Conclusion: It appears that acute complications are not related to a decrease in DRF or pyeloplasty failure, therefore no routine urinary diversion during pyeloplasty is necessary. However, in patients with a DRF of more than 60%, diversion is recommended because of a high prevalence of complications caused by the low compensatory capacity of the contralateral kidney.

UP.162
Coexisting UreteroPelvic Junction Obstruction and UreteroVesical Junction Obstruction
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Introduction and Objectives: In case of coexisting ureteropelvic junction obstruction (UPJO) and ureterovesical junction obstruction (UVJO), it is difficult to diagnose both of them correctly and manage them properly. Here, we report our experience in the diagnosis and management of coexisting UPJO and UVJO in pediatric patients.
Materials and Methods: Between April 2002 and March 2012, there have been 13 patients who were diagnosed with coexisting UPJO and UVJO among patients underwent pyeloplasty or plication ureteroneocystostomy. We retrospectively analyzed the records.
Results: Among 13 patients, correct diagnosis was made preoperatively only in 7 patients (53.8%) while only UVJO was diagnosed in other 2 patients. In the other 4 patients without ureteral dilatation on preoperative ultrasonography, only UPJO was diagnosed. Pyeloplasty was the initial management in 9 patients, while plication ureteroneocystostomy was in 3 patients. In one patient, both pyeloplasty and plication ureteroneocystostomy was performed simultaneously. Among 9 patients with initial pyeloplasty, ureteral stent insertion was performed in

1 patient due to postoperative urinoma development. Additional ureteroneocystostomy was required in 2 patients and ureteroscopic distal ureter stone removal was performed in other 1 patient. Among 3 patients with initial plication ureteroneocystostomy, additional pyeloplasty was required in 1 patient.
Conclusion: It is difficult to diagnose coexisting UPJO and UVJO correctly. In case of pyeloplasty in UPJO patients, preoperative retrograde pyeloureterography is strongly recommended to check distal ureter and ureterovesical junction. Initial pyeloplasty is not always recommended as a first line therapy due to possible secondary UPJO caused by UVJO.

UP.163
PUV and Consanguinity
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Introduction and Objectives: Posterior urethral valve (PUV) is a life-threatening congenital anomaly of the urinary tract occurring in 1 in 8000 to 25000 live births that may cause renal insufficiency if not treated in time. Valves have occurred in siblings, twins, and in successive generations but its severity with consanguinity have never been studied. We aimed to determine the incidence of consanguinity in PUV patients.
Materials and Methods: Retrospective review of 74 consecutive children with PUV managed done over 3 years. Diagnosis was made by clinical feature, USG and confirmed by voiding cystourethrogram (VCUG). History of first degree cousin marriage was specifically inquired.
Results: Seventy-four patients were regularly followed in clinic for a minimum period of 6 months after valve ablation. Mean age at presentation was 1.4 years. Most common symptoms at presentation were straining at voiding 58 (78%), urinary tract infection 57 (77%), poor stream 56 (76%), urinary dribbling 50 (67%) and urinary retention 17 (23%). Family history of first degree cousin marriage was found in 20 (27%) patients. There was no history of PUV fulguration in family. Twenty-six (35%) patients were diagnosed antenatally based on USG finding of hydronephrosis and distended bladder. Out of these, 11 (42%) had family history of cousin marriage. Also postnatal hydronephrosis was more sever in boys of cousin marriage. Similarly, On VCUG, Vesicoureteric reflux (VUR) was seen in 46 (62%) patients while in 28 (38%) patients ureters were bilaterally refluxing. Out of 28 bilaterally refluxing ureters, 12 (43%) patients had history of consanguinity. Chronic renal insufficiency was found in 22(30%) of patients at presentation. Out of them, 45% (10) were product of first degree cousin marriage. Consanguinity was noted in all three patients with ESRD.
Conclusion: Cousin Marriage is very common in this part of world. Significant number of patients with PUV has history of consanguinity. These patients present with more severe disease and early renal insufficiency. Further studies on large scale are required to support the finding.

UP.164
PUV Fulguration in Dry Urethra: A Procedure to Be Avoided
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Introduction and Objectives: Posterior urethral valve (PUV) is life-threatening congenital anomalies of the urinary tract occurring in 1 in 8000 to 25000 live births and may results in renal insufficiency if not treated in time. Endoscopic ablation of posterior urethral valves using cold knife and laser are the safe and effective surgical techniques. Complications of instrumentation in dry urethra were known long ago but it is still practiced widely. Our objective was to determine the incidence of urethral stricture in patients of PUV with urinary diversion who underwent urethral valve fulguration in dry urethra.
Materials and Methods: Retrospective review of 74 consecutive children with PUV managed over 3 years. Diagnosis was made by clinical feature, USG and confirmed by voiding cystourethrogram (VCUG). All children were treated by endoscopic fulguration of posterior urethral valves (PUV) using cold knife as urethral valvotome. They were routinely followed clinically and with ultrasonography, laboratory test and check cystoscopy.
Results: Symptoms at presentation were straining at voiding 58 (78%), urinary tract infection 57 (77%), poor stream 56 (76%), urinary dribbling 50 (67%) and urinary retention 17 (23%). Twenty-three (31%) patients had initial urinary diversion procedure including vesicostomy in 11 patients and reflux ureterostomy in 12 patients with 4 patients having bilateral ureterostomies. Out of 23, 4 patients with vesicostomy and one with bilateral ureterostomy had PUV ablation without un-diversion i.e. fulguration in dry urethra. All these 5 (22%) patients developed urethral strictures at definitive.
Conclusion: Urethral instrumentation like PUV fulguration in dry urethra is associated with high incidence of urethral stricture. It is recommended not to instrument in the dry urethra.

UP.165
Clinical Courses of Myelodysplastic Children with Secondary High-Grade Vesicoureteral Reflux
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Introduction and Objectives: To evaluate the clinical courses of myelodysplastic children with secondary high-grade vesicoureteral reflux.
Materials and Methods: A retrospective review of 25 children with high-grade vesicoureteral reflux secondary to neurogenic lower urinary tract dysfunction (14 girls and 11 boys, age range 0-10 years). Vesicoureteral reflux was unilateral in 14 children and bilateral in 11 children. Reflux grade was III in 13, IV in 8 and V in 4 (higher grade in bilateral cases).
Results: In two patients, their vesicoureteral reflux was resolved by clean intermittent catheterization with anticholinergics. In the remaining patients, eight patients underwent enterocystoplasty for upper urinary tract deterioration and/or febrile urinary tract infection refractory to conservative treatment. In five patients who underwent anti-reflux surgery as initial treatment, three patients eventually underwent enterocystoplasty for recurrence of vesicoureteral reflux later.
Conclusion: The present study suggests that the limitation of conservative treatment seems to be apparent in myelodysplasia cases with secondary high-grade vesicoureteral reflux.

UP.166
Penile Strangulation Caused By Tourniquet Injury: An Experience of Seven Cases
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Introduction and Objectives: Strangulating injury to penis cause by hair or thread is often seen as well missed owing to lack of awareness and missing of diagnosis mainly because of improperly done

examination. The consequent delay may result in devastating complications like urethro-cutaneous fistula and glanular amputation. We hereby share our experiences of managing seven patients presenting with hair tourniquet injury.
Materials and Methods: Charts of seven (n=7) patients with mean age of 6.2 years who were diagnosed with having penile injury caused by tourniquet were reviewed. Data was collected for presenting symptoms and signs, treatment offered and complications.
Results: Four out of 7 patients presented with penile pain and swelling with constricting hair which was cut and removed. Two out of 7 patients presented with urethro-cutaneous fistula which was repaired, while 1 patient presented with glanular amputation. All the patients were circumcised. Tourniquet material in all cases was human hair.
Conclusion: All the patients presenting with penile pain and swelling should be thoroughly examined for tourniquet injury. Delay or missing the diagnosis is associated with devastating complications.

UP.167
Reduction in Hypospadias Complications by the Systematic Use of Modern Techniques
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Introduction and Objectives: To evaluate the outcomes of hypospadias surgery complications following implementation of modern techniques and materials for urethroplasties.
Materials and Methods: A total of 332 hypospadias surgeries performed by a single surgeon from 1983 to 2010 were analyzed. The mean age was 3.4 years old (SD+/- 3.2). Distribution of hypospadias type were 26.8% glanular/coronal, 40.1% distal/midshaft penile, 16.3% proximal penile, 14.2% penoscrotal, and 2.7% scrotal/perineal. Standardized urethroplasty procedures were used for each type of hypospadias. Patients were divided into 2 groups, according to the implementation of modern techniques and materials. Group-1: Chromic full-thickness interrupted sutures, silicone Foley catheter urethral stenting, and dressing by antibiotic gauze covered by a tight gauze compression. Group-2: Polydioxanone (PDS) subcuticular uninterrupted sutures, Silastic urethral stenting, and dressing by antibiotic ointment covered with transparent film dressing. When the latter two were not available, they were substituted with feeding tube urethral stenting or simple light-pressured dressing using moist gauze.
Results: There was no significant difference of patient characteristics between the two groups. The most common type of complications for either group were urethrocutaneous fistulas (Group 1, 40.4% and Group 2, 45.5%), followed by meatal stenoses (Group 1, 26.9%, and Group 2, 27.3%) and strictures (Group 1, 25%, and Group 2, 22.7%). p = 0.964. Significant reduction in overall complication following hypospadias surgery was observed between group I (27.2%) and group II (15.6%), Pearson's Chi-Square p = 0.012. Complication rate also decreased for each type of hypospadias (Group I vs. Group II): Glanular/Coronal (27.3% vs. 8.8%), distal penile/midshaft (22.1% vs. 12.5%), proximal penile (26.7% vs. 16.7%), penoscrotal (36.4% vs. 28%), and scrotal/perineal (57.1% vs. 50%) hypospadias.
Conclusion: Hypospadias surgery complications may be reduced by adapting various modern techniques and materials for suturing, urethral stenting and postoperative dressing.

UP.168
Can We Codify DMSA Lesions Associated with Vesico Ureteric Reflux
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Introduction and Objectives: It is very important to assess the significance of defects on DMSA scintigraphy to improve treatment recommendations for children with VUR. Although the application of DMSA scans to renal imaging has provided us with improved sensitivity and specificity in the detection of renal lesions, no standard nomenclature exist to discriminate among these abnormalities with regard to etiology. Thus the clinical relevance of these abnormalities, some are identified in newborns without a history of UTI, or in those with acute UTI, is often confused. In the first circumstance the DMSA scan detects a congenital abnormality of the renal cortex occurred as a result of disordered development during organogenesis. This abnormality should not be called a scar, which is rather the result of wound repair following pyelonephriris injury.
Materials and Methods: We have assessed the clinical data and investigations of almost 150 patients of VUR treated in the last 11 year at a single centre. Cortical defects seen on DMSA scan and clinical history of presence or absence of UTI were noted and codify.
Results: We could identify several cases of VUR without UTI but with very significant cortical defect on DMSA scan. We codify those lesions as congenital cortical defects. In second group patients of VUR who had history of UTI, based on cortical lesions characteristic on DMSA scan categorize as acquired cortical lesions.
Conclusion: We need to attempts codify DMSA lesions based on presentation, congenital cortical defects or acquired defects to comprehend fully the significance of what we see. This helps us in deciding management policy and also makes prognostication reliable.

UP.169
Four-year Follow-up Analysis of Hospitalized Infants and Children Patients with Urinary Stone Induced by Melamine Contaminated Milk
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Introduction and Objectives: To investigate the clinical characteristics and prognosis in 4 years of hospitalized children and infants who suffered from urinary calculi induced by melamine contaminated milk massively out-breaking in 2008 in China.
Materials and Methods: There were 212 cases diagnosed with urinary calculi caused by melamine contaminated milk in our hospital from July of 2008 to June of 2009 were followed-up for 4 years. Follow-up included blood test, urinalysis, renal function test, urinary tract ultrasound, and children's weight, height, clinical symptoms, growth and development of urinary calculi, and situation of the complications of acute renal failure. A total of 212 cases of normal non-breastfeeding cases in the same period are taken as control group.
Results: In all, 57 female and 155 male cases are investigated, aged 8-82 months, mean (16.8±8.4) months. The average hospital stay was (9±5) days. Sixteen cases were treated by surgical therapy (ESWL: 8 cases; ureteroscopy holmium laser lithotripsy: 5 cases; ureter catheterization: 3 cases). Stones were all removed in 16 cases. A total of 196 cases were treated by conservative therapy; 184 cases discharged from hospital with stones were treated continuously and conservatively outside the hospital. By

4 years after discharge, all cases had no clinical symptom. Stone size showed no significant changes in 18 patients; 56 patients had smaller stones; the stones of 108 cases disappeared completely; and 2 cases had increased stone. There into 4 cases whose stones are larger than 1.0cm were suggested to be treated surgically. Output of urinalysis and renal function of patients with acute renal failure recovered to normal level. The pH of urine in patients was significantly lower than the control group before treatment. This significant difference is not eliminated 4 years later yet. Blood urea nitrogen, serum serum creatinne and uric acid in the control group, moderate and mild group were greatly lower than in severe group. Forty four cases with hydronephrosis decreased, hydronephrosis of 47cases disappeared and were unchanged significantly in 6 patients, 2 cases were aggravated. No patients died. No urinary tract tumor were found. Follow-up results showed no incidence of urinary tract lesions. There was no significant difference ($p>0.05$) in weight between patients and control group. The comparison showed the number of patients with low height increased significantly ($p<0.05$), while the number of children with calcium supplement in control group was greatly higher than in patient group.

Conclusion: Feeding infants or children with melamine contaminated milk results in urinary calculi, the peak age is 2 years, the disease often found after 6 to 12 months, kidney stones are common, mostly muddy-like and multiple. Ultrasound has the specific performance. Clinical symptoms are not obvious. To most cases, conservative non-surgical treatment has satisfactory effects. Through conservative treatment, most stones can be discharged completely during 1 to 2 years, meanwhile hydronephrosis can disappear gradually. However, some melamine stones can be convert to X-ray-opaque stones. After 4 years of follow-up, we found no abnormal changes structurally and functionally in urinary system. And no evidence showed that melamine contaminated milk results in significant adverse of infant or children on growth and development effects besides tumor.

UP.170

5-year Outcome of Squamous Urethral and Squamous Penile Cancer: A Comparative Single Centre Study

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Introduction and Objectives: Urethral squamous cell cancer (SCCu) is a rare disease in men with less than 2000 reported cases in the literature and an estimated incidence of 1 per million male population. Case series provide most of the available information and there is currently no consensus on treatment modalities. At our centre, we have managed patients based on an established treatment algorithm for penile cancer (SCCp) in the absence of more evidence-based guidelines. Our aim was to analyse the survival of patients with SCCu and compare it with survival of our SCCp cohort.

Materials and Methods: This is a retrospective study of all male patients with a histological diagnosis of SCCu from April 2000 to July 2011 at a single institution. Forty one patients were identified and data analysed using Kaplan Meier survival curves and log rank test for trend.

Results: For the SCCu group as a whole, 5-year cancer-specific survival was 88.6%. Those with node-negative and node-positive disease had a 5-year cancer-specific survival of 96.2% and 51.6%, respectively. Furthermore, there was a significant difference between the curves ($P=0.0028$). For SCCp, 5-year cancer-specific survival at the same institution was 84.9% ($n=433$, $P<0.0001$). For patients with node-negative disease and node-positive disease survival was 97.1% and 50.1%, respectively ($P<0.0001$).

Conclusion: The data suggests that using the same treatment algorithm, SCCu patients have comparable outcomes to SCCp patients. The study is limited by small patient numbers, which probably contributes to the variability in node-specific 5-year survivals. However, in the absence of better data, it is reasonable to continue treating distal urethral cancer as for penile cancer.

UP.171

Squamous Cell Carcinoma of the Penis Associated with Benign Prostate Hyperplasia

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Introduction and Objectives: Cancers of the penis are uncommon tumors. In some regions in Africa and Asia, it represents 10 to 20 % of male cancer. In Europe, the prevalence varies from 0.4 to 0.6% of male cancer. It is a disease of older men which incidence remains unknown in Cameroon. The SCC is a rare disease. The literature review on it is restricted. We report a clinical case of penis cancer associated to prostate hyperplasia in a single patient.

Materials and Methods: Mr N.G., a 77-year-old retired driver, polygamist, father of 14 children, presented to our service on January 2010 with a history of circular painful ulcerative wound of the penile shaft, dysuria, urgentury. On physical examination, we found ulcerative and necrotic circular and painful lesion of the penis, bleeding on touch, 2 cm below coronal sulcus. Only 6 cm of distal penile was normal, induration of cavernous bodies. Digital rectal examination retained an increased prostate size, firm, regular edges, elastic with median sulcus. The rest of physical examination was unremarkable.

Results: Surgery consisted of emasculation and perineal urethrostomy, bilateral superficial and deep lymphadenomectomy. Prostate adenomectomy was made through the bladder. Treatment: for tumor localised to the prepuce, conservative treatment is advised (excisional biopsy and/or laser). For patients not respecting treatment, a partial penectomy is recommended with a margin ranging from 5 to 10 mm (15 mm for stage G3) proximal to the gross tumor extent. Radiation therapy and chemotherapy are recommended after surgery. The treatment of prostate hyperplasia is surgical and by open surgery for adenomas with weight more than 60 g.

Conclusion: Squamous cell carcinoma of the penis is a scarce pathology in the world. There are series of 50 cases or some clinical case reports.

UP.172

Glans Reconstruction Using the Bracka-Technique: Outcome and Satisfaction

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Introduction and Objectives: Penile amputation due to penile cancer causes cosmetic and functional deficits. This study was conducted to assess the outcome, satisfaction and QoL after penile amputation with glans reconstruction using the Bracka-technique.

Materials and Methods: Retrospective

analysis of 9 pts with glans reconstruction. Pts chart review, validated questionnaires (IPSS, IEFF, SF8 and the sexual subdomain of the FKKS for assessing sexual perception) were used to evaluate tumor stage, micturation status, erectile function, sexual perception and QoL.
Results: Mean age was 63 yrs., mean follow up was 59.3 months. 11% of the pts had a pTis, 11% pTa, 33% pT1 and 44% pT2 tumor stages. Four pts had lymph node metastasis. In 2 pts we performed a dynamic sentinal node biopsy. Two pts underwent adjuvant chemotherapy due to lymphatic metastasis. Mean IPSS was 7.6 (range 0-24), IPSS QoL was delighted or pleased in 75%, mixed or unhappy in 12.5% of the pts respectively. A strong or moderate urinary stream was noted by 88.9%, 11% reported a weak urinary stream. Urinary spraying was noted as minimal in 44%, as moderate in 22% and as severe in 11%. Whereas 66% of the pts reported being able to urinate while standing. 62.5% of the pts reported a mild to moderate deterioration of erectile function due to surgery, while this was noted as strong in 37.5%. Mean IIEF-score was 26 (range 7-70). As a complication, 1 pt suffered a hematoma of the reconstructed glans with subsequent partial skin graft necrosis. No other complications were documented. Regarding satisfaction with surgery, 55.5% of pts were satisfied or highly satisfied; 33.3% were undecided and one pt was unsatisfied with surgical outcome. Of pts 55.6% noted no change of QoL after partial penile amputation, whereas 22.2% reported a very strong improvement and 22.2% a strong decline of QoL.
Conclusion: Glans reconstruction with split thickness skin represents a successful and non-mutilating surgical method to sustain urinary and sexual function, QoL and satisfactory cosmetic results after undergoing partial penile amputation. The oncological outcome is not affected.

UP.173
Penile Fracture: Surgical Success and Complication Rate in 26 Cases
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Introduction and Objectives: A fracture of the penis is defined as the rupture of the tunica albuginea of corpora cavernosa as a result of blunt trauma to the erect penis commonly during sexual intercourse or masturbation. Our objective is to present our experience in management of fracture penis, surgical success and complication rate.
Materials and Methods: This study was in the Urology Department of Tripoli Medical Center on 26 patients between August 2003 and July 2010. The patients' ages were between 19 and 61 year (mean 34.23 year). The diagnosis was based on history and clinical examination. A circumferential sub coronal incision was made followed by degloving the penis to its base. The hematoma was evacuated and the tear was repaired with absorbable, interrupted stitches and the skin was closed with 3/0 undyed vicryl. Cefotriaxon 1 gm IV were given preoperatively and continued for 5 days post operative and diazepam 5 mg tab twice daily was given.
Results: The cause of penile fracture was masturbation in 11 patients; intercourse was the cause in 9 cases, and 6 were caused by rolling over the erect penis during sleep. All of patient presented with swelling and ecchymosis. Eighteen patients underwent surgery within first 24 hrs, 8 patients were operated on in the 2nd day. After 6 months of follow up, 19 patients (73.1%) were without complaint: 17 (89.47%) of them were operated on within the first 24 hrs and 2 patient (10.53%) operated on 2nd day. Seven patients (26.9 %) had complications. Six patients were operated on after 24 hrs from time of trauma and one patient who was operated on in the first 24 hrs complained of painless penile deviation. Three patients had complications with penile deviation and with painful erection. Three patients complicated by penile deviation.
Conclusion: Our experience showed that penile fracture is a rare urological emergency. Early surgical correction of penile fractures is successful in preserving normal erections without significant complications, and delayed operative management is associated with a complication such as penile deviation and painful erection.

UP.174
Higher Incidence of Varicocele in Benign Prostatic Hyperplasia Patients with Moderate or Severe Lower Urinary Tract Symptoms
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Introduction and Objectives: To compare the incidence of varicocele in the benign prostatic hyperplasia (BPH) patients with mild, moderate or severe lower urinary tract symptoms (LUTS) by retrospective chart review.
Materials and Methods: Between June 2002 and February 2007, 266 elderly (50-70 years) BPH men from urology OPD were recruited for this study. All the patients were divided into 3 groups. Sixty-five patients with mild LUTS (IPSS score: 0-7) were assigned to Group 1, 105 patients with moderate LUTS (IPSS score: 8-19) were assigned to Group 2, and 96 patients with severe LUTS (IPSS score: 20-35) were assigned to Group 3. Varicocele was confirmed by physical examinations and Doppler ultrasonography. The parameters for comparison included age, body mass index (BMI), serum concentration of follicle-stimulating hormone (FSH), luteinizing hormones (LH), testosterone, testicular volume, grade of varicocele and peak retrograde flow (PRF) and maximal vein diameter (MVD) by color Doppler ultrasound (CDS).
Results: The incidence of varicocele in men with BPH was 26.7% (71/266), and 15.4% (10/65) was in group 1, 26.7% (28/105) in group 2, and 34.4% (33/96) in group 3, respectively. Of 71 patients with varicocele, 53 were left (9 in group 1, 23 in group2 and 21 in group3), 5 were right (1 in group 1, 2 in group 2 and 2 in group 3) and 13 were bilateral (0 in group 1, 3 in group 2, 10 in group 3). Patients with varicocele had lower BMI than those without. Furthermore, varicocele men in group 2 and 3 had higher PRF and MVD than those in group 1. No significant difference of age, BMI, serum concentration of FSH, LH and testosterone, and testicular volume among the patients in group 1, 2 and 3, respectively.
Conclusion: BPH men with moderate and severe LUTS had higher incidence of varicocele than those with mild LUTS. In addition, BPH men with severe LUTS had highest incidence of bilateral varicocele.

UP.175
Laparoscopic Varicocelectomy for Chronic Scrotal Pain: A Single Centre Experience
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Introduction and Objectives: Surgical ligation of varicoceles is widely used and common procedure, although almost exclusively as a treatment modality for male infertility. The most common type of symptoms in these patients is dull pain or

discomfort worsening with physical activity and straining. Our study aims to study the role of laparoscopic varicocelectomy as a treatment option for chronic pain due to varicocele.
Materials and Methods: Our cohort encompasses 35 patients with dull scrotal pain, worsening with physical activity and clinically detected varicocele. The age of the patients is between 23 and 54 years Mean age 37 y. The mean follow-up was 19.6 months. The grade of varicocele was 3 in 17 patients (48.5%), 2 in another 17 (48.5%) and 1 in 1 patient (3%). The mean pre-op VAS score was 2.39 in the scale of 0-5, and in all patient fertility was not an issue (normal semen parameters, have children or spontaneous pregnancies). All patients were followed up at 3 months and bi-annually thereafter.
Results: After the operation 32 patients (91%) had significant improvement in VAS, two had partial improvement (6%), and one had no change (3%). In our cohort we haven`t observed post-op worsening of the symptoms. Mean VAS score post-op at 3 months was 0.4. During the follow-up period we observed 4 recurrences (12%) with 2 re-do procedures, performed by inguinal approach. We have observed two cases of wound infection (6%) which resolved uneventfully. Post operatively three cases (9%) of de novo developed hydroceles were observed.
Conclusion: Laparoscopic varicocelectomy is a highly successful option for surgical treatment of varicocele in our cohort, with significant improvement of symptoms in approximately 90% of the patients and minimal complications. We feel that this very high success rate can be attributed to the careful selection of patients and by excluding those with sharp radiating scrotal pain. Another factor that possibly contributes to these results is the fact that our cohort doesn`t include small subclinical varicoceles.

UP.176
One Stage Substitution Urethroplasty Using Onlay BMG for Treatment of Bulbar Urethral Stricture: Ventral versus Dorsal Placement of the Graft
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Introduction and Objectives: Evaluation of patients with bulbar urethral stricture who underwent one stage substitution urethroplasty using onlay buccal mucosa grafts (BMG) placed ventrally or dorsally.
Materials and Methods: A total of 51 patients with bulbar urethral stricture were managed by substitution urethroplasty using buccal mucosal graft. Buccal mucosa graft as a ventral onlay in 24 patients and dorsal onlay in 27 patients. All patients had previous history of several dilatations and visual internal urethrotomy. The buccal mucosa graft was always taken from the cheek. Preoperative evaluation included complete history and physical examination, RUG and cystoscopy. Post operative follow up by RGU and cystoscopy with assessment of urethral patency, complications as fistula, stricture recurrence, and urethral diverticulum.
Results: The mean age was (43±11) years. The mean stricture length was (4.5±1.5) cm. with mean BMG length of (4.2±0.8) cm. Postoperative complication occurred in the form of fistula in 2 (8%) patients of ventral onlay group and none in the dorsal onlay group. Stricture occurred in 7 patients, 4 (16.6%) in ventral and 3 (11.1%) in dorsal onlay group. The mean follow up was 37 months (range 35 to 47). The success rate for ventral onlay was 75% (18 of 24) and for dorsal onlay was 88% (24 of 27).The overall success rate was 82% (42 of 51 cases).
Conclusion: One stage substitution urethroplasty using ventral or dorsal onlay BMG is a feasible management for bulbar urethral stricture. Dorsal onlay approach was associated with less complication and more satisfactory outcome than venral onlay substitution.

UP.177
Clinical Characteristics and Management of the Angiomyolipoma (AML)
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Introduction and Objectives: Angiomyolipomas (AMLs) are not uncommon benign renal tumors, of which vascular patterns and mass effects are very similar to those of renal cell carcinomas. In addition, even by using ultrasonography (US) or computed tomography (CT), their diagnosis is sometimes confusing, probably according to the ratio of the fat component. Hereby, characteristics and management are presented.
Materials and Methods: A total of 20 kidney units having AML, 18 patients, and one uterine AML were enrolled in this study. The AML were defined by presence of the fat component in US, CT, and tissue pathology. We investigated the prevalence according to age and sex, and the changes of their sizes for over 2years.
Results: AMLs were most frequent in the 6th decade and in female at the first presentation. Chief complaints related to the mass itself were a palpable mass and flank pain caused from bleeding in one kidney unit. The rest of the masses were discovered incidentally during the routine checkup or checkup for other problems. The masses were found in one uterus and 20 kidneys (bilateral in 2 patients, 7 cases in right kidneys, and 9 cases in left kidneys). The sizes of the masses at first presentation were various (median 3.0cm, 0.6cm~20cm). Three kidneys were nephrectomized under suspicion of the malignancy and one patient underwent hysterectomy because of vaginal bleeding from the accompanying endometriosis. Arterial embolizations were performed 9 times to 5 patients. The sizes of the masses increased about mean 0.6cm (mean 5.0cm to 5.5cm) after mean 8.2 years (2.0~22.0 years). Two patients had tuberous sclerosis accompanied with mental retardation and adenoma sebaceum; bigger in size at the first presentation, less response to treatment, and aggravating the condition of the kidney.
Conclusion: Majorities of angimyolipomas were indolent except one case with a palpable mass and pain caused by bleeding. They grew very slowly through decades and showed some responses to arterial embolizations. In some cases, differentiations from the malignancy are still confusing. We would like to suggest that the AMLs in patients accompanying tuberous sclerosis might not be different originally in characteristics.

UP.178
Urologist Practice Patterns in the Diagnosis and Management of Peyronie's Disease in South Korea: A Nationwide Survey in 2012
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Introduction and Objectives: Although

the interest and understanding in Peyronie's disease (PD) has grown significantly in recent years, there is a paucity of literature concerning about the real practical patterns. We performed a nationwide survey of the current strategies used for diagnosis and management of patients with PD among Korean Urologists.
Materials and Methods: A probability sample was taken from the Korean Urological Association Registry of Physicians, and a specially designed questionnaire was e-mailed to the randomly selective 2421 urologists. The survey explored practice characteristics and attitudes, as well as diagnosis and treatment patterns for PD.
Results: Responses were received from 527 (21.8%) practicing urologist. Most urologists (75.3%) treated less than 6 PD patients per years while only 3.8% of urologists saw more than 20 PD patients. The most bothersome symptom that makes patients visit to the urologic clinic was penile curvature (75.5%) followed by painful erection (13.6%), difficulty in penetration (4.2%), palpable nodule (3.2%) and erectile dysfunction (2.1%). Vitamin E was the preferred initial medical management for 58.3% of respondents. PDE-5 inhibitors (19.9%), Potaba (14.6%), carinitine (12.1%), colchicine (8.5%), tamoxifen (7.6%) and pentoxifyline (5.1%) were also favored by urologists as an initial medical treatment. The urologist who performed intralesional injection therapy used the corticosteroid (70.4%), verapamil (45.1%) and interferon (3.2%). Most urologists (67.6%) considered the surgical treatment when the initial medical and injection therapy were failed. Thirty-nine percent of respondents performed surgery for PD in their own urologic clinic while others (61%) did not and refer to other urologist. The most frequently performed surgical procedure in the treatment of PD was plication (84.1%) followed by excision & graft (42.9%), penile prosthesis implantation (14.2%) and others (1.8%). The urologists' perception in the point of view about the suitability and the patients' satisfaction was not significantly different from each surgical technique.
Conclusion: The results of our current survey provide useful insight into variations in the clinical practice of Korean urologists. They also indicate the need to develop further practical guidelines based on solid clinical data and to ensure that these guidelines are widely promoted and accepted by the urological community.

UP.179
Microsurgical Intermediate Subinguinal Varicocelectomy for Surgeons Inexperienced in Microsurgical Technique: Initial Experience
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Introduction and Objectives: The most common cause of male infertility is varicocele, which can be detected in at least 35% of infertile men and correctable or at least improvable. This study was conducted to introduce simple modification which can facilitate microsurgical subinguinal varicocelectomy (MSV) especially for surgeons inexperienced in microsurgical technique.
Materials and Methods: A single surgeon performed microsurgical intermediate subinguinal varicocelectomy (MISV) on 52 patients with 61 cases between September 2010 and August 2012. Preoperative evaluation included physical examination for varicocele grade and testis volume, color Doppler ultrasonography, and semen analysis. Patient age, varicocele grade, operation time, intraoperative findings, postoperative complications, and 3-month follow-up results were analyzed.
Results: Patient mean age was 28 years (range 15-69 years), and bilateral cases numbered nine. The mean operative time was 51 minutes (range 34-109 minutes). We compared the first 31 cases to the second 30 cases, to assess investigator experience on operating times. In the initial 31 cases, mean operation time was 55 minutes (range 37-109 minutes). In the later 30 cases, it was 50 minutes (range 34-88 minutes) (P=0.086). The mean number of ligated veins was 5 (range 3-10) in internal spermatic vein, 1 (range 0-4) in external spermatic vein, and 1 (range 0-3) in gubernacular vein. Recurrent varicocele was observed in one patient (1.6%). No postoperative hydrocele occurred. In 28 patients, the average postoperative sperm concentration at the 3-month follow-up was significantly higher than the preoperative sperm concentration (28.5±18.2x106 /mL versus 10.5±23.0x106 /mL; P=0.003). Mean motility improved after MSIV (65.7±18.2% versus 47.2±21.7%; P=0.004).
Conclusion: MISV appears comparable to MSV in terms of high success rate, low complication rate, and low postoperative pain; and it can be easily accomplished by inexperienced surgeons.

UP.180
Indications for Orchidectomy at the 37 Military Hospital
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Introduction and Objectives: This is a retrospective study of the indications of orchidectomy from January 2005 to February 2013 at the 37 Military Hospital.
Materials and Methods: Theatre records of patients who have had orchidectomy over the period were analysed and recorded.
Results: A total of 167 patients had orchidectomy over the period. Out of this number 97.1% (162) were prostate cancer patients (Table 1), 0.6% (1) had testicular cancer, 1.26% (2) had testicular torsion, 0.6% (1) had cryptorchidism and 0.6% (1) had an abdominal testis (Table 1). For the prostate cancer patients (97.1%) their ages ranged from 45yrs to 91yrs (Table 2). For the other indications 2.9% (5) the ages ranged from 10yrs to 32yrs and as such were much younger (Table 2). Explanation for the younger patients 45years to 60 years who had orchidectomy for prostate cancer was because between 2005 and 2009 there was nobody with skill for radical prostatectomy and brachytherapy available and

UP.180, Table 1. Indications for Orchidectomy

Diagnosis	PROCEDURE	NUMBER	%
Prosate Cancer	Bilateral	162	97.1
Testicular Cancer	Inguinal Ochidectomy	1	0.63
Testicular Torsion	Unilateral Orchidectomy	2	1.26
Cryptorchidism	Unilateral Orchidectomy	1	0.63
Abdominal Testis	Orchidectomy	1	0.63
TOTAL		167	100

UP.180, Table 2. Age Specifications

Diagnosis	Age Ranges/Yrs	Number	%
Torsion	10-20	1	0.63
Cryptorchidism	20-30	1	0.63
Testicular Cancer/Torsion/ Abdominal Testis	30-40	3	1.89
Prostate Cancer	40-50	2	1.26
	50-60	13	8.19
	60-70	40	25.2
	70-80	91	57.33
	>80	16	10.08
TOTAL		167	100

the cost of gorserelin was too exorbitant for the patients to afford.
Conclusion: This is a retrospective study of indications for orchidectomy at the 37 Military Hospital. By far Prostate cancer is the highest indicator for orchidectomy (97.1%) whilst Testicular cancer, testicular torsion, cryptorchidism and abdominal testis account for 2.9%.

UP.181
Seasonality of Acute Scrotal Pain in Scotland
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Introduction and Objectives: The role of ambient temperature in the aetiology of acute scrotal pain (ASP) remains uncertain, as studies on the subject have yielded conflicting results. The most common causes of ASP are torsion of the testis or its appendages which require scrotal exploration, and epidymo-orchitis which is managed non-operatively with antimicrobials. We undertook an analysis of ASP in Scotland to determine whether a seasonal variation could be observed.
Materials and Methods: All episode reports for torsion of testis, torsion of appendages and epididymo-orchitis in Scotland for the 25 year period from 1983 to 2007 was obtained from the Information Services Division (ISD) of the National Health Service (NHS), Scotland. The monthly frequency was collated. Ambient temperature data was obtained from the United Kingdom Meteorological Office. Statistical analyses were performed to determine whether there was a seasonal variation, and whether differences in ambient temperature during the year could explain any variation observed.
Results: A total of 7,882 episodes of torsion of the testis or appendages (Group A), and 25,973 episodes of epididymo-orchitis (Group B) were reported. There was a significant variance in the monthly frequency of Group A episodes ($p < 0.0001$, Friedman test). There was a significantly higher frequency of Group A episodes in the colder months compared to the warmer months ($p<0.0001$, Mann-Whitney test) and a significant inverse correlation between the frequency of Group A episodes and ambient temperature (Spearman r = -0.8757, 95% CI -0.9661 to -0.5941, p = 0.0004). There was significant variance in the frequency of Group B episodes (p = 0.0031, Friedman test) but no correlation with ambient temperature.
Conclusion: The results show that over a 25 year period, there was seasonal variation in the frequency of acute scrotal pain episodes in Scotland. Ambient temperature is likely to be playing a role in the aetiology of torsion of the testis and appendages but not epididymo-orchitis. Further study is warranted to explain the underlying mechanisms. This knowledge could help the development of preventive strategies such as the use of appropriate clothing in cold weather. The variation in the frequency of epididymo-orchitis also warrants further study.

UP.182
Penile Length is Associated with Prostatic Health and Erectile Function in Japanese Men
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Introduction and Objectives: Penile size is one of the major concerns for many men. We have been impressed that penile length is relatively long among the patients with benign prostatic hyperplasia. As far as we know, relationships between penile length and prostate volume, lower urinary tract symptom, and sexual function were not fully investigated to the present. Thus, we conducted the study to investigate whether penile length is associated with prostatic size and sexual function.
Materials and Methods: From April 2010 to October 2012, 655 consecutive male patients who underwent trans rectal ultrasound guided prostate needle biopsy were recruited for this study. Prior to admission, patients were requested to answer questionnaires including 5-item version of the international index of erectile function (IIEF5). Prostate volume was measured by using trans rectal ultrasound device. Penile length (PL) was measured by a ruler along the dorsum of the penis from the pubopenile junction to the tip of the glans. Results were evaluated by using Pearson correlation analysis. P value less than 0.05 was considered as significant.
Results: The mean age of patients was 67.8 years. Mean PL in flaccid and stretched states were 94.4 mm and 122.6 mm respectively. Two-hundred fifty-seven (39.2%) of them were diagnosed as prostate cancer. Penile flaccid length was positively correlated with age ($R2 = 0.017$, $P = 9.44e\text{-}4$), prostate volume ($R2 = 0.015$, $P = 0.041$), and negatively correlated with body weight ($R2 = 0.012$, $P = 4.53e\text{-}3$). While penile stretched length was negatively correlated with body weight ($R2 = 0.012$, $P = 4.82e\text{-}3$) and positively correlated with IIEF5 total score ($R2 = 0.007$, $P = 0.041$). The ratio of penile stretched / flaccid length was negatively correlated with age ($R2 = 0.032$, $P = 3.76e\text{-}6$). After stratification by prostate biopsy results, penile stretched length showed higher correlation with IIEF5 total score among patients with prostate cancer ($R2 = 0.023$, $P = 0.015$), compared to patients with negative results ($R2 = 0.001$, $P = 0.466$).
Conclusion: The penile length was correlated with age, body weight, prostate volume, and IIEF5 total score.

UP.183
A Review of the Outcome Following Laser Vaporization of the Difficult Urethral Strictures: Unexpected Long-Term Durability and Normalization of the Urethra
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Introduction and Objectives: A long-term follow up of the patients managed during 1995 to 2006 is presented. There were 69 patients with 29 who had virtually closed urethra. The optimal use of laser and the technique developed to ablate urethral strictures successfully, with normalization of urethra, is being presented for the first time in the published literature. Follow up study had been approved by the Institutional review board.
Materials and Methods: Sixty eight males and one female, 26 to 72 years old with 1 to 5cm long urethral strictures for 2 to 38 years, have been reviewed. Fifty one were spinal injured and 18 were able bodies; Forty five were bulbar-membranous, 6 in the anterior urethra, 12 involved posterior urethra and 6 were incalcitrant bladder neck strictures. The 29 Complex strictures included 5 incalcitrant, 1 in the anterior urethra in the female patient, and 23 were in the posterior urethra with severe bladder neck Stenosis. Through an operating cystoscope, after a filliform bougie dilatation and placement of a metal guide wire, initial urethrotomy incision was made at 12 o'clock and cystoscope was advanced to determine the extent of the stricture. All fibrous tissue was circumferentially vaporized without damaging any island of the normal tissue. Low level energy (10 to 22.5 W) was used. Initially Nd: YAG and later Ho: YAG laser, 200 to 360 micron end fiber was used in a contact mode to vaporize the fibrous tissue. The mean operation time was 32 minutes (range 15 to 57 minutes). Urethral catheter was removed after 24 hours.
Results: Patients have been followed from 2 to 9 years (Mean 7.1 years). Repeat vaporization was required in l7% patients with 10% needing during the first year in the difficult group of patients who had almost closed urethra. Follow up revealed satisfactory voiding in all patients. In randomly available 9 patients on cystoscopy, urethra was found normal with no evidence of stricture.
Conclusion: Several factors seem to have helped satisfactory outcome: 1. Circumferential vaporization of only the fibrous tissue with use of low level laser energy had minimal charring effect on the normal intact islands of urethral tissue. 2. The holmium laser has a short absorption depth in tissue and possesses excellent properties both in ablation and hemostasis. Its 'use in a contact mode has a minimal coagulative necrosis of the tissues. This seems to be one of the key factors for the possible regeneration and normalization of urethra.

UP.184
Longevity of Testicular Prosthesis: 10-year Single Institution Experience
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Introduction and Objectives: The long term complications following insertion of silicone testicular prostheses remain poorly investigated. A retrospective study was performed to assess prosthesis longevity and the complication rate of insertion at our urology centre.
Materials and Methods: There was no log of patients who received testicular prosthesis. Patients were identified by an electronic record search using the keywords 'orchidectomy', 'torsion', 'testicular implant' and 'testicular prothesis'. A total of 45 implantations in 43 patients were recorded in the 10 year period from January 2002 to November 2012. Data collection included patient demographics, indication for the orchidectomy, time elapsed between orchidectomy and prosthesis insertion, follow-up time, and complications.
Results: Forty three patients aged between 7 and 54 had primary prothesis insertions and 2 patients had a prosthesis replaced. The reason for insertion was following testicular malignancy in 14 (32.6%) patients and testicular torsion and aplasia in 8 (18.6%) and 7 patients (16.3%) respectively. None of the patients had a prosthesis inserted at the time of orchidectomy. The median time between orchidectomy and prosthesis insertion was 20 months (2-240). Pain was the most common complication in 8 (18.6%) patients. Two patients had their prosthesis removed due to infection and pain. No spontaneous extrusion or displacement was reported.
Conclusion: Our data demonstrate a low complication rate following insertion of testicular prosthesis. Identification of prosthetic insertions may be incomplete due to lack of a full register. Following the recent complications encountered with silicone breast implants, provision of accurate patient identification is paramount. We propose that an on-line testicular prosthesis register should be created and made available to the relevant Urologists.

UP.185
Complex Urethral Strictures: Comparative Analysis of Different Techniques of Anastomotic and Substitution Urethroplasties
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Introduction and Objectives: The modern approach of urethral strictures requires a complete diagnostic evaluation. The treatment should be done considering the location and length of the stenosis. We analyzed the results obtained by different urethroplasties techniques.
Materials and Methods: We conducted an observational and descriptive study of the urethroplasties performed from February 2007 to December 2012. The minimum follow-up was 6 months. We analyzed the following variables: age, etiology, location, length, type of surgery, graft type and postoperative complications. For the statistical analysis, Fisher's exact test was used for qualitative variables and the Mann Whitney U test for quantitative variables. Success was considered when: Qmax> 15 ml / s, normal or diameter > 50% in the post operative urethrography or when the patient was asymptomatic.
Results: Urethroplasty was performed in 31 patients, 16 end to end anastomosis (EU) and 15 using substitution tissue (SU). The mean age was 48.53 years (17-77) in the SU and 53.33 years (31-76) in the EU. In all the EU the stenosis was in the bulbomembranous urethra. For the SU group, the stenosis location was 66.6% peneal and in 33.3% bulbomembranous urethra. The etiology was idiopathic in 16 cases (51.65%), iatrogenic in 9 (29%), trauma in 3 (9.67%) and infectious in 3 (9.67%). The average length of the stenosis was 1.6 cm (1-3) in the EU and 6.03 cm (2-13) in the SU group. In the SU we used a prepuce mucosa graft in 3 cases (20%), oral mucosa graft in 11 (73.33%) and a prepuce flap in 1 (6%). A 2-time procedure was performed in 4 cases (26%). Postoperative complications were: urinary fistulas 2 (6.45%), 3 hematomas (9.67%) and 2 perineal abscess (6.45%). The rate of success was 68.75% in the cases of SU and 76.92% in cases of EU.
Conclusion: Urethral reconstructive surgery is the best option for the initial treatment of complex urethral strictures. This technique offers very good results with low morbidity.

UP.186
Prediction of Survival Benefit by Automated Bone Scan Index in Castration-Resistant Prostate Cancer Patients
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Introduction and Objectives: One scan is the most frequently used imaging modality to detect bone metastasis in prostate cancer patients. However, changes detectable by BS focus on the intensity or size of osseous lesions, and are essentially determined by subjective evaluation, making it difficult to compare each BS finding in a longitudinal fashion. Bone scan index (BSI) has been shown to be an additional prognostic parameter for patients with bone metastatic prostate cancer (PC). However, the current manual method of determining BSI is time consuming and requires special training. The aim of this study was to evaluate the value of automated BSI (aBSI), calculated using a computer-assisted diagnosis system, to indicate chemotherapy response and predict prognosis in castration-resistance PC (CRPC) patients with bone metastasis.
Materials and Methods: Forty-two consecutive CRPC patients underwent taxane-based chemotherapy between November 2004 and March 2011 at our institution. The aBSIs were retrospectively calculated at diagnosis of CRPC and 16-weeks after starting chemotherapy. Cox proportional hazards regression models were used for multivariate analyses without aBSI response and another one with aBSI response. Concordance index (c-index) for each model was used for evaluating the value of adding the aBSI response for predicting prognosis.
Results: Changes in aBSI were significantly correlated with PSA changes (P=0.023). Twenty-eight patients (66.7%) had a decrease in aBSI, whereas response was shown by bone scan in only 23.8%. Patients who showed a decrease in aBSI had longer overall survival (OS) in comparison with the other patients (P = 0.0157).On multiple analysis without aBSI response, performance status (P =0.0182) and PSA response (P=0.0375) were associated with OS and c-index was 0.621.On multivariate analysis with aBSI response, aBSI response was the strongest independent predictor for OS (P = 0.0149) and c-index was 0.660.
Conclusion: This is the first study to show that aBSI reflects chemotherapy response of osseous metastasis. The index detected small changes of bone metastasis response as quantified values and was a strong prognostic indicator for CRPC patients.

UP.187
Patterns and Trends in Management of Locoregional Prostatic Adenocarcinoma with PSA of ≥20ngm/ml
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Introduction and Objectives: Extremely high PSA at diagnosis has traditionally precluded a surgical approach for prostate cancer. This database study evaluates the national trends in management of patients with high PSA at prostate cancer diagnosis.
Materials and Methods: Men aged 75 years or less with a diagnosis of prostatic adenocarcinoma and a PSA of 20ngm/ml and over were identified from the SEER 18 Database (2004-2009). Exclusion criteria included patients with metastatic disease at diagnosis, more than one primary cancer, unknown stage, unknown Gleason score, unknown treatment, or diagnosis at autopsy. Patients were analyzed for demographics, stage at presentation, treatment patterns, and survival using appropriate statistics.
Results: A total of 15,485 patients with PSA between 20 and 98.8ngm/ml were identified. Mean age at diagnosis was 64±7.3 years. A total of 4,510 (29.1%) patients did not receive any definitive treatment (NDT group), 6503 (52%) received Radiation, and 4472 (28.9%) underwent surgery. A Total of 531 patients underwent adjuvant radiation after surgery. The mean PSA of patients who underwent surgery (47.3ngm.ml) or RT (44.3 ngm/ml) was lower than the patients who did not have any definitive treatment (50.9 ngm/ml). Increasing age and increasing T and N stage were associated with a trend towards a surgical approach while Gleason score and PSA levels were not associated a trend towards surgery. Increasing age and Gleason score were associated with an increasing trend towards radiation while increasing PSA, T stage, and N stage were associated with a decreasing trend towards radiation. Increasing age and PSA was associated with an increasing trend towards NDT, while an increasing stage was associated with a reduced trend towards NDT. The N stage and Gleason score did not predict a trend for the NDT.
Conclusion: The PSA level, even when very high, is not the sole factor that determines whether or not patients with prostate cancer receive surgery. Nationwide trends suggest that while radiation is the most common treatment modality undertaken by patients with PSA over 20 ngm/ml, patients younger than 50 years of age are more likely to undergo surgery irrespective of the PSA level.

UP.188
Cabazitaxel: An Option? First Experiences
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Introduction and Objectives: First-line docetaxel is the standard of care for castration-resistant prostate cancer (CRPC). Until recently, patients with CRPC had limited therapeutic options and poor prognosis once they became refractory to docetaxel chemotherapy. In 2010 the reported results from phase 3 trials for second line treatment with the novel taxane cabazitaxel were published. They showed improved survival rates for patients with CRPC. Therefore in 2011 we have started cabazitaxel chemotherapy for treatment of patients with CRPC who have previously been treated with docetaxel.
Materials and Methods: Our first patient had a systemic disease progression 5 years after radical surgical therapy in 8/2005. After resistance to further hormonal manipulation and radiation we started the chemotherapy with docetaxel. Due to a PSA-Progression (747 ng/ml) under chemotherapy we saw the indication for a second-line therapy with cabazitaxel. Our second patient had his surgical therapy already in 1997. After radiatio-, hormone depletion-therapy and two times 6 courses of docetaxel chemotherapy he showed up with a hydronephrosis and raising PSA (301ng/ml).
Results: The first patient tolerated the cabazitaxel chemotherapy very badly. Already during the first few courses this patient developed neutropenic fever. Therefore we decided to a dose-reduction. After an initial PSA decrease to 540ng/ml the PSA-increased up to 1910ng/ml already after the 3rd course of chemotherapy. In addition the patient developed gastrointestinal bleedings, so we had to stop the cabazitaxel therapy and switch to abiraterone. The second patient showed initially a good treatment response with cabazitaxel, with a PSA decrease to 179ng/ml. But even this patient developed after the 3rd course neutropenic fever and a PSA-progression. Due to the distinctive side effects and toxicity we recommended a therapy-alteration to abiraterone.
Conclusion: Cabazitaxel is a new option for patients with CRPC with disease progression during or after docetaxel treatment. The therapy side effects are particularly so severe that they limit the

therapy effect of the already usually very morbid patients. The therapy effect has according to our experience only a limited duration. We assume abiraterone is a better second-line alternative.

UP.189
Targeting the Proprotein Convertases in Prostate Cancer
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Introduction and Objectives: Prostate cancer remains the single-most prevalent cancer in men. Standard therapies are still limited and include androgen ablation that initially causes tumor regression. However, tumor cells relapse and develop into a hormone-refractory prostate cancer. The objective of our study is to determine if the proprotein convertases (PCs) are potential therapeutic targets in prostate cancer. PCs are involved in the precursor processing and activation of many cancer-associated proteins. One PC, namely PACE4, has been revealed to be very promising. We must therefore define PACE4's mechanisms of action in prostate cancer progression.
Materials and Methods: We examined PACE4 expression in prostate cancer tissues obtained from radical prostatectomies. We also studied three classic prostate cancer model cell lines, namely DU145, LNCaP and PC3 cells for PC expression and effects of downregulation via molecular silencing using lentivirus delivered shRNAs. We developed and tested PACE4 inhibitors (and analogs) as potential therapeutic leads. Finally PET imaging in animal models visualizes prostate cancer tumors that express PACE4.
Results: Our results demonstrate that PACE4 is overexpressed in 100% of prostate cancers tissues tested to date. There is a correlation between PACE4 expression and tumor progression as determined by Gleason scores. When PACE4 is silenced in cancer cells lines, their growth characteristics are strongly affected, with highly reduced proliferation, in vitro, but also when these modified cell lines are implanted in immunodeficient mice. PACE4 inhibitors reduced growth rates of PACE4 expressing cells in vitro and when tested in xenograft mouse models. Finally, a PACE4 imaging probe detects PACE4 cancer cells lines implanted in immunodeficient mice.
Conclusion: Our data show that PACE4 is a key enzyme in the progression of prostate cancer. Inhibition of PACE4 results in a potent reduction of growth progression. We believe that this occurs since PACE4 is most likely activating key growth factors, and thus the lack of this key activation pathway severely limits further proliferation. The identification of these PC-related growth factors is currently being examined.

UP.190
Bicalutamide Monotherapy versus Combined Bicalutamide plus Dutasteride: An Efficacy Comparison and Quality-of-Life Analysis in Locally Advanced and Metastatic Prostate Cancer Patients
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Introduction and Objectives: A significant proportion of prostate cancer (PCa) patients will be diagnosed in a metastatic stage of disease or will, despite treatment of curative intent, develop recurrent disease. Hormone therapy is the mainstay of treatment for these patients. Bicalutamide as a non-steroidal antiandrogen can be administered as a monotherapy; however, to achieve maximal local androgen blockade a 5α-reductase inhibitor can be added. The aim of this study was to assess the efficacy of bicalutamide monotherapy versus bicalutamide plus dutasteride on PSA progression and survival. Thereby, quality-of-life was also evaluated.
Materials and Methods: In this prospective multicenter clinical trial, a total of 84 patients with either metastatic PCa, locally advanced disease (T3/T4) or recurrent disease after primary treatment with curative intent, were recruited and randomised to compare bicalutamide 150mg/day monotherapy with bicalutamide 150mg/day plus dutasteride 0.5mg/day. Inclusion PSA level was >10 ng/mL. Treatment response was monitored by serum PSA level, with primary endpoint being PSA progression. Secondary endpoints were quality-of-life, assessed by the EORTC QLQ-C30 and QLQ-PR25 questionnaires, and survival.
Results: The mean PSA at randomisation was 96.7 ng/mL(range 11.3-660.0). Seventy-five percent of the patients had high-grade Gleason score PCa (GS≥7) and 83% had tumour stage T3/T4 at initial diagnosis. At a median follow-up of approximately 26 months bicalutamide monotherapy was statistically equivalent to combined therapy in terms of PSA progression (hazard ratio [HR]=0.919; 95%CI:0.554-1.526) and overall survival (HR=0.811; 95%CI:0.397-1.656). Although more PCa related deaths occurred in the monotherapy group (41%) compared to the combined therapy group (23%), this was not significant (HR=0.605; 95%CI:0.272-1.347). In an analysis of the validated quality-of-life questionnaires no significant differences between the two groups could be found at six, twelve and 24 months. Over time, treatment associated symptoms (e.g. flushes, painful nipples, weight gain/loss) were significantly increased in both groups at six and twelve months compared to baseline evaluation, however, between the groups no difference was found.
Conclusion: No difference in efficacy could be determined between bicalutamide monotherapy and bicalutamide plus dutasteride combined therapy in patients with high PSA baseline levels, respecting PSA progression, survival and PCa related death. Both therapies have a comparable tolerability profile.

UP.191
Comparison of the Survival Rate between Prostate Cancer Patients with Gleason Score 8 and Those with Score 9 or Higher for Different Therapeutic Approaches
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Introduction and Objectives: In this study, we analyzed the survival rate of prostate cancer patients, who had Gleason score of 8 or higher evaluated in prostate biopsy and classified as high risk patients, for different therapeutic approaches selected based on the Gleason score.
Materials and Methods: Among 2,136 patients who received prostate biopsy at our hospital during the period from 1998 to 2011, 250 high risk prostate cancer patients who had Gleason score of 8 or higher were selected as the subjects of this study and were divided into two groups, those who received surgical treatment (Group I) and others who received non-surgical treatment (Group II). We compared and analyzed the survival rate for each group as well as for 118 patients (65%) with Gleason score 8 and 63 patients (35%) with Gleason score 9 or higher.
Results: A total of 181 prostate cancer patients with Gleason score 8 or higher who were available for follow-up observation were studied as subjects. Mean age of Group I and Group II was 66.5±5.8 years and 71.3±7.9 years (p<0.001) PSA was 48.7±71.0 ng/ml and 508.3±1071.3 ng/ml (p<0.001), Gleason score was

8.38±0.6 and 8.46±0.66 (p=0.411), survival time was 51.7±40.7 months and 41.9±24.0 months, respectively. Prostate volume was 39.0±13.8 ml and 50.7±25.1 ml (p<0.001) and 5 year survival rate was 34% and 24%, respectively, showing high survival rate in surgical treatment group. Mean survival time was 116.7±10.2 months and 65.3±4.8 months, respectively, showing significant inter-group difference (p=0.001). Among the patients with Gleason score 8, 42 (35.6%) were in Group I and 76 (64.4%) in Group II. Their mean wage was 65.6±5.8 years and 71.9±7.4 years (p<0.001), prostate volume 39.0±13.8 ml and 48.4±26.1 ml (p=0.004), mean PSA 51.4±78.6 ng/ml and 508.3±1071.3 ng/ml (p=0.002), and survival time 121.4±11.4 months and 66.7±6.8 months (p=0.002), respectively for each group, showing significantly longer survival time in Group I. Among the patients with Gleason score 9 or higher, 19 (30.2%) were in Group I and 44 (69.8%) in Group II. PSA was 42.4±51.6 ng/ml and 481.8±774.5 ng/ml (p=0.001) and survival time was 86.3±11.5 months and 58.8±6.9 months (p=0.145), respectively for each group.

Conclusion: In this study, we found that survival time was longer among the patients who received surgical treatment even if they had high risk prostate cancer. Among the patients with Gleason score 8, those who received surgical treatment showed significant improvement in survival time. However, those with Gleason score 9 or higher did not show significant difference in survival time, showing the difference of survival rate between therapeutic approaches even among the patients with higher Gleason scores.

UP.192

Incidence of Deobstructing Procedure for Local Progression after Primary Treatment for Prostate Cancer (PCa)

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Introduction and Objectives: Local progression and its impact on further treatment is poorly documented in the literature. We have analysed the rate of urinary tract desobstructive procedures (DP) after primary treatment failure for prostate cancer (PCa).

Materials and Methods: A multicentre retrospective study on 377 patients affected by non-metastatic PCa treated with curative (RP radical prostatectomy, EBRT external beam radiotherapy) or non-curative intent (HT hormonal therapy, TURP transurethral resection of prostate) between 1986 and 2012. All patients experienced primary treatment failure and in some cases different urinary tract DP were performed; data from TURP, indwelling catheterization, supra-pubic catheterization, ureteral stenting and nephrostomy positioning were collected during follow up. Desobstructive procedure rates were estimated by Kaplan-Meyer method with log-rank test considering time from primary treatment to first DP and the procedure itself as main endpoint according to primary treatment. Different covariates (biopsy Gleason score, clinical staging, PSA tot, primary treatment [RP, EBRT, HT, TURP]) were considered to analyse the risk of having a DP by Cox proportional hazard model at univariable and multivariable analysis. The α error for statistical significance was set at 0.05. Stata/SE v.12.1 was used for statistical analysis.

Results: A total of 377 Patients with mean age of 66.8 yr (±8.2) underwent different primary treatments for PCa: 150 (40%) RP, 91(24%) EBRT, 121 (32%) HT and 15 (4%) TURP+HT. 271 (72%) patients did not experience any DP and vice versa 106 (28%) underwent one single intervention in 74(19.6%) cases or consecutive procedures in 32(8.8%) patients. Desobstructive procedure rates at 60,120 and 240 months are shown in Table 1. cT stage ≥3vs<3 and any primary treatment different from RP demonstrated to be risk factors for DP at univariable analysis; EBRT (HR 2.1, 95%CI 0.92-4.55, P=0.08) and HT (HR 2.1, CI 95% 0.97-4.53, P=0.06) also showed to have a trend at multivariable analysis. Retrospective design and lack of the most recent EBRT technologies are the main limitations of present study.

Conclusion: Patients treated primarily with RP seems to have lower DP rates compared to EBRT or non-curative approaches. At univariable analysis cT stage and, considering RP as reference, EBRT, HT and TURP showed a higher risk for DP.

UP.193

The Effects of Neoadjuvant Hormonal Therapy for Functional Outcomes after Robot-Assisted Laparoscopic Radical Prostatectomy

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Introduction and Objectives: The purpose of this study is whether neoadjuvant hormonal therapy (NHT) has effects for functional outcomes after robot-assisted laparoscopic radical prostatectomy (RALP) in high-risk prostate cancer.

Materials and Methods: We reviewed medical records of a total of 100 patients with high-risk prostate cancer according to D'Amico classification who underwent RALP from January 2008 to June 2011, retrospectively. We analyzed several factors related to functional outcomes, including age, body mass index, baseline PSA, nerve sparing, Gleason score, T stage, prostate volume, positive surgical margin and NHT. We evaluated functional outcomes by direct patient interview and IIEF-5 questionnaires at before and 12 months after RALP. The patients with preoperative IIEF-5<18 were excluded for evaluating potency. Recovery of potency was defined as the patients with IIEF-5≥18 regardless of receiving medication. Recovery of continence was defined as achieving zero pad use.

Results: The clinical and pathologic characteristics according to functional outcomes were compared (Table 1). Mean duration of NHT is 3.52 months (1-12). Positive surgical margin rate was significantly low in patients with NHT (4.5% vs. 33.9%, p<0.001). In multivari-

UP.192, Table 1.

Desobstructive procedure rates			
	60 months	120 months	240 months
% (95% CI)			
RP	2.7 (0.9- 8.3)	14.7 (8.3-25.4)	26.9 (10.7-57.8)
EBRT	13.2 (6.8-24.9)	26.1 (15.6-1.7)	58.9 (28.8-90.3)
HT	20.1 (12.3-31.7)	34.2 (22.2-50.3)	49.0 (32.5-68.5)
TURP + HT	0 (0-0)	16.7 (2.5-72.7)	37.5 (10.7-85.8)
(Kaplan-Meier, log-rank test p=0.003)			

ate analysis, not performing nerve sparing, large prostate volume and NHT were negative predictive factors for recovery of continence, and young age and nerve sparing were positive predictive factors for recovery of potency.
Conclusion: NHT has negative effects on recovery of continence, while potency was not significantly influenced. These details should be discussed with patients considering NHT during preoperative counseling.

UP.194
Results of Surgical Treatment of High Risk Prostate Cancer Patients
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Introduction and Objectives: High risk prostate cancer (HR-PC) is an aggressive disease with high probability of recurrence or progression and often requires multimodal treatment. Surgical strategy in HR-PC patients (pts) includes extensive removal of periprostatic tissue and extended pelvic lymph node dissection (PLND). The aim of the study was to assess biochemical progression-free survival (b-PFS) in HR-PC pts after radical prostatectomy (RPE) in subject to anatomical boundaries of PLND performed.
Materials and Methods: Retrospective analysis of database from 1148 pts after RPE and PLND was performed. In analysis 385 (33.5%) HR-PC pts with exactly established anatomical extent of PLND and known follow-up survival status were included. According to anatomical regions of PLND performed, pts were divided in to 2 gropes: standard (S-PLND) was performed in 183 (47.5%) pts; extended (E-PLND) – in 202 (52.5%). Mean PSA level was 25.4±18.6 ng/ml in S-PLND group and 25.6±11.8 ng/ml in E-PLND group (p=0.07); mean percentage of positive biopsy cores was 63.1±30.1% and 62.3±31.6%, respectively (p=0.75). Clinical stage (p<0.001) and biopsy Gleason score (p<0.001) were significantly more favorable in S-PLND group of pts. Patients with lymph node (LN) metastases were excluded from the further survival

UP.193, Table 1. Comparison of clinical and pathologic characteristics between functional recovery group and non-recovery group.

	Continence recovery (-) (n=13)	Continence recovery (+) (n=87)	P value	Potency recovery (-) (n=54)	Potency recovery (+) (n=24)	P value
Mean age (yr)	66.0±5.5	65.5±6.5	0.776	66.7±5.8	62.6±7.6	0.022
Mean body mass index (m^2/kg)	23.9±1.9	23.9±2.3	0.988	23.8±2.4	24.2±2.5	0.477
Mean PSA (ng/dl)	24.5±15.7	20.7±21.3	0.593	22.7±23.3	14.8±10.8	0.045
Clinical T stage (%)			0.264			0.693
T1	0 (0.0)	12 (13.8)		8 (14.8)	2 (8.3)	
T2	6 (46.2)	43 (49.4)		27 (50.0)	12 (50.0)	
T3	7 (53.8)	32 (36.8)		19 (35.2)	10 (41.7)	
Needle biopsy Gleason score sum (%)			0.418			0.125
≤6	4 (30.8)	14 (16.1)		6 (11.1)	7 (29.2)	
7	2 (15.4)	20 (23.0)		11 (20.4)	5 (20.8)	
≥8	7 (53.8)	53 (60.9)		37 (68.5)	12 (50.0)	
Prostate size on transrectal ultrasonography (g)	40.8±23.4	32.6±13.7	0.073	32.3±15.3	34.3±16.5	0.611
Nerve sparing (%)			0.037			0.034
None or unilateral	10 (76.9)	40 (46.0)		32 (59.3)	8 (33.3)	
Bilateral	3 (23.1)	47(54.0)		22 (40.7)	16 (66.7)	
Pathologic prostate volume (g)	45.5±22.7	34.6±15.7	0.052	35.9±17.5	36.1±20.9	0.954
Pathologic T stage (%)			0.378			0.393
T2	2 (15.4)	22 (25.3)		12 (22.2)	7 (29.2)	
T3a	5 (38.5)	41 (47.1)		27 (50.0)	8 (33.3)	
T3b or more	6 (46.2)	24 (27.6)		15 (27.8)	9 (37.5)	
Specimen Gleason score sum (%)			0.144			0.692
≤6	2 (15.4)	3 (3.4)		2 (3.7)	2 (8.3)	
7	5 (38.5)	48 (55.2)		28 (51.9)	12 (50.0)	
≥8	6 (46.2)	36 (41.4)		24 (44.4)	10 (41.7)	
Positive surgical margin (%)	2 (15.4)	19 (21.8)	0.731	9 (16.7)	9 (37.5)	0.044
Receiving NHT (%)	10 (76.9)	34 (39.1)	0.015	29 (53.7)	6 (25.0)	0.019

analysis. Biochemical recurrence (BR) was assessed as elevation of PSA>0.2 ng/ml on three consecutive measurements after the operation.
Results: Mean number of LN removed was 13±7 (2-35) in S-PLND and 28±9 (12-61) in E-PLND group (p<0.001). LN metastases were verified in 42 (22.9%) and in 80 (39.6%) pts, respectively (p=0.0005). Median follow up time was 31±23.7 months (3-156 months). During this period BR were observed in 57 (31.1%) pts in S-PLND group and in 26 (12.9%) pts in E-PLND group (p<0.001). Cumulative 5-year b-PFS rate was 32.6±6.1% for HR-PC pts in S-PLND group and 49.3±8.3% in E-PLND group (p=0.08).
Conclusion: Surgical treatments in pts with HR-PC permit to achieve satisfactory oncologic outcome. Results are largely determined by the extent of PLND performed during the operation. Extended PLND should be performed in all HR-PC pts so far as it could increase diagnostic accuracy in assessing of LN invasion and reduce the risk of BR after the operation.

UP.195
Development of Peripheral Edema at the End of 5 Courses of Docetaxel Chemotherapy for Castration-Resistant Prostate Cancer: An Independent Prognostic Factor to Decide Whether Treatment Should Be Continued
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Introduction and Objectives: Docetaxel (DTX) therapy is the standard treatment for castration-resistant prostate cancer (CRPC). However, it is associated with a wide variety of adverse events (AEs). Peripheral edema and neuropathy are major AEs of DTX therapy, which show a cumulative effect, with increased incidence at a total dosage of >400 mg DTX. It is difficult to determine whether continuation of chemotherapy is beneficial for patients. We aimed to examine the relationship between prognosis and AEs of DTX therapy.
Materials and Methods: Ninety-four CRPC patients received DTX therapy. We analyzed 71 of these patients who received more than 5 courses (total dosage, >400 mg). Associations among clinical factors at the start of chemotherapy, prostate-specific antigen (PSA) reduction rate, AEs at the end of 5 courses of treatment, and overall survival (OS) were analyzed using univariate and multivariate analyses.
Results: The average number of treatment courses was 17. Median OS was 16 months. The median PSA reduction rate was 79%. Thirty patients developed edema (≥grade1) and 9 developed neuropathy at the end of 5 courses of DTX therapy. In univariate analysis, age, performance status, hemoglobin, lactate dehydrogenase, C-reactive protein (CRP), presence of pain, the PSA reduction rate, and presence of peripheral edema were significantly associated with OS. The median OS of patients who developed edema was 17 months; this was significantly shorter than that (32 months) of patients who did not develop edema (p = 0.004). Multivariate analysis showed that presence of pain (hazard ratio [HR], 4.699; 95% confidence interval [CI], 2.231-9.866; p < 0.001), elevated CRP (HR, 1.262; CI, 1.057-1.476; p = 0.012), and presence of peripheral edema (HR, 2.109; CI: 1.011-4.406; p = 0.046) were independent predictors of OS.
Conclusion: Presence of peripheral edema at the end of 5 courses was significantly associated with poor prognosis in CRPC patients who received more than 5 courses of DXT therapy. Thus, presence of peripheral edema at the end of 5 courses may be a useful factor to determine whether treatment should be continued.

UP.196
Radical Prostatectomy versus High Dose Permanent Prostate Brachytherapy Using Iodine-125 Seeds for Patients with High Risk Prostate Cancer: A Matched Cohort Analysis
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Introduction and Objectives: In this report, we compare the biochemical outcomes reported after radical prostatectomy (RP) versus high dose permanent prostate brachytherapy (HDPPB) using iodine-125 seeds in the treatment of matched high risk prostate cancer (HiPCa).
Materials and Methods: In this retrospective review, 55 HiPCa patients treated between March 2006 and August 2011, who underwent HDPPB using iodine-125 seeds combined with EBRT or ADT, were compared with 55 HiPCa patients who underwent RP. We excluded those patients with follow-up periods < one year. All surgeries and HDPPB were performed by a single surgeon. Patients were matched for age, prostate specific antigen (PSA), clinical stage and Gleason scores. The biochemical outcomes after HDPPB and RP were compared via Kaplan-Meier analysis.
Results: Of the 110 patients analyzed, the mean ages, PSA and Gleason biopsy scores were similar between the two cohorts. The mean implanted seed numbers were 83.3, the mean D90 was 256.0 Gy and the mean V100 was 98.7% after HDPPB. With regard to oncological outcomes, biochemical disease-free survival rates were similar between the two cohorts (82.6% vs. 81.1%, p = 0.982) during a mean follow-up period of 31 months. Based on multivariate Cox regression analysis, the biopsy Gleason score (HR 3.608; 95% CI, 1.007-12.930; p = 0.039) was the only significant predictor of BCR. Most bowel and voiding complications included RTOG toxicity grade 1 and 2. Only two patients had the severe complication of urethrorectal fistula, and both were resolved by surgical or interventional procedures. In total, three complications were recorded as Clavien Dindo classification 3, with two of the complications occurring in the HDPPB group (2 urethrorectal fistula), compared to one case of lymphocele after RP.
Conclusion: RP and HDPPB, using iodine-125 seeds with combined treatment modalities, exhibited similar biochemical recurrence-free survival rates among HiPCa patients. Further prospective studies with greater sample sizes and longer follow-up periods are needed to validate these results.

UP.197
No Equivalence and Sufficiency of Leuprolide and Goserelin Acetates to Suppress Serum Total Testosterone and PSA Levels
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Introduction and Objectives: The grade of potency of LHRH analog peptides varies according to their modified amino acid structures, and thus the effect on the pituitary–gonadal axis may vary with the agent. Also, total testosterone may not represent the real exposure to bioavailable and active free testosterone. We evaluated the relative efficiency of leuprolide 3.75 mg, leuprolide 7.5 mg, and goserelin 3.6 mg in relation to the reduction in serum total testosterone (TT), and PSA as well as the possible correlation between TT and PSA in this scenery.
Materials and Methods: We evaluated prospectively 60 randomized patients with advanced prostate carcinoma, with indication for hormone blockade. The

patients were randomized into 3 groups of 20: Group (1) received leuprolide 3.75 mg; Group (2) received leuprolide 7.5 mg; and Group (3) received goserelin 3.6 mg. All groups were treated with monthly application of the respective drugs. The patients' levels of serum total testosterone and PSA were evaluated in two moments: before the treatment and 3 months after the treatment. Spearman's rank correlation coefficient was utilized to verify the hypothesis of linear correlation between total testosterone and PSA levels.
Results: At the beginning the patients' age, stage, PSA, total testosterone and Gleason score were similar within the three groups. Three months after the treatment, patients that received leuprolide 7.5 mg presented significantly lower median total testosterone levels compared to leuprolide 3.75 mg, 30.0 vs. 9.5 respectivelly (p=0.0072); while those that received goserelin 3.6 mg presented significantly lower PSA levels compared to leuprolide 7.5 mg and leuprolide 3.75 mg (p=0.0067), 0.67 vs. 1.86 vs. 2.57, respectively. There was no linear correlation between total testosterone and PSA levels (Table 1). Overall, regarding castration levels of total testosterone, 28.77% of patients did not obtain levels ≤ 50 ng/dl and 47.80% did not obtain levels ≤ 20 ng/dl.
Conclusion: Our results contest the equivalence of different pharmacological castrations regarding TT and PSA levels. Free (bioavailable) testosterone may be the main factor driven PSA and disease control, but not TT. Future studies should focus on free testosterone to confirm our hypothesis and to define the best marker of hormonal deprivation. Our results support labeling and classifying LHRH agonists from a regulatory perspective in different classes according to their efficacy.

UP.198
The Use of Bicalutamide 150 mg as a Secondary Hormonal Manipulation for Patients Who Were Treated with Medical or Surgical Castration Due to Prostate Cancer
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Introduction and Objectives: To determine the effects of 150 mg bicalutamide as a secondary hormonal manipulation for patients who were treated with medical or surgical castration due to prostate cancer.
Materials and Methods: Our clinic's prostate cancer database was rewieved. The patients whose PSA got progressed after castration were assessed. Their age, PSA level at the diagnose, castration type, time from the first treatment to 150 mg bicalutamide treatment, type of 150 mg bicalutamide treatment (directly, dose increase, after withdrawal) and bicalutamide 150 mg treatment time without PSA progression were recorded.
Results: From 2000 to 2012, there were 28 patients who had 150 mg bicalutamide treatment after castration. Mean age was 69.17 (55-81) and mean PSA at the diagnose was 142 (4-1000) ng/ml. Castration type was medical in 8 patients and surgical in 20 patients. Time from the first treatment to 150 mg bicalutamide treatment was 47,2 (3-144) mounths. Type of 150 mg bicalutamide treatment was dose increase in 18 patients, directly in 3 patients, after withdrawal in 7 patients. Treatment was not succesfull except 4 patients. Treatment time without PSA progression was 16 (2-48) mounths. While mean PSA of the patients whose treatment was succesful was 53 ng/dl, mean PSA of the patients whose treatment was unsuccesful was 162 ng/dl. While Gleason score of the patients whose treatment was succesful was 3+3 in 3 patients, 3+4 in 1 patient, Gleason score of the patients whose treatment was unsuccesfull was 8 and above in 15 patients, 4+3 in 6 patients, 3+4 in 2 patients and 3+3 in 1 patient besides.
Conclusion: Bicalutamide 150 mg as a secondary hormonal treatment seems like ineffective treatment after castration related to our retrospective data. However it would be more appropriate planning a prospective study to investigate this treatment strategy as a secondary hormonal manipulation.

UP.197, Table 1.

Groups	Total Testosterone – PSA Spearman's rank correlation coefficient (p-value)
Gosereline 3.6 mg	-0.09402 (0.6934)
Leuprolide 3.75 mg	0.11053 (0.6524)
Leuprolide 7.5 mg	0.19782 (0.4031)
Overall	-0.05561 (0.6757)

UP.199
The Influence of High Intensity Focused Ultrasound Treatment on Long-Term Survival of Patients with Advanced Prostate Cancer
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Introduction and Objectives: To investigate the influence of high intensity focused ultrasound (HIFU) treatment on long-term survival of patients as local therapy for advanced prostate cancer following hormonal therapy.
Materials and Methods: Between March 2000 and August 2012, we performed a prospective, controlled, and nonrandomized study on 84 patients with advanced PCa after hormonal therapy. Control group (40 cases) received hormonal therapy alone, and HIFU group (44 cases) received HIFU treatment following hormonal therapy. To make survival analyses by the method of Kaplan-Meier survival curves and calculating survival rates.
Results: The 3-year and 5-year survival rates of HIFU group were 77.88% and 52.24%, and those of control group were 45.15% and 25.63%. There was significant difference between two groups in survival curve (P=0.0264).
Conclusion: After hormonal therapy, utilizing HIFU to strengthen local control of advanced prostate cancer significantly prolonged the survival time of patients.

UP.200
The Development and Characterization of 40 Unique Prostate Cancer Xenograft Lines
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Introduction and Objectives: For decades, prostate cancer (CaP) research has been hampered from a scarcity of reliable pre-clinical models. This is especially crucial today as we realize that CaP is a heterogeneous disease with varied responses to therapy. To overcome this limitation, over the last 24 years we established 40 unique CaP xenograft lines (the LuCaP series).
Materials and Methods: Xenografts were initiated from human tumors acquired at

radical prostatectomy or more commonly by rapid autopsy (tissue acquired within 2 hours of death) and implanted into male immune-compromised mice. Characterization included (1) growth, (2) biomarkers by immunohistochemistry (45), (3) oligo array profiles, (4) copy number gains and losses, (5) expression of the androgen receptor (AR) and its splice variants, (6) bone model response, and (7) response to therapy (e.g. androgen ablation, chemotherapy).
Results: Forty xenograft lines have been developed. Four are neuroendocrine, 12 have castration resistant (CR) sublines and 7 have abiraterone or MDV-3100 resistant sublines. Unsupervised gene expression array clustering analyses revealed (1) association between the xenograft and the originating clinical specimen, (2) pairing of androgen-sensitive lines with their CR sublines, and (3) insignificant molecular drift over a 2-5 year period of serial passage. Biomarker expression is quite heterogeneous. Seven LuCaP models elicit an osteoblastic reaction in the bone, 8 lines have the TMPRSS2:ERG fusion, and 5 models are PTEN negative. The xenograft lines express different levels of AR with some expressing AR splice variants. Heterogeneous responses to androgen ablation agents (both established and experimental) and chemotherapy are observed. In the 7 sublines resistant to abiraterone or MDV-3100, we are exploring mechanisms of resistance (data to be presented).
Conclusion: These LuCaP CaP xenograft lines are highly diverse and clinically relevant models to study CaP biology and new treatments. The varied phenotypes and responses to therapy of these lines suggest that in preclinical evaluations, misleading conclusions can be drawn from the use of only one or two models.

UP.201
Androgen Deprivation Induced Stem Cell Property in Human Prostate Cancer Cell Line LNCaP Cells
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Introduction and Objectives: Prostate cancer initially responds to androgen deprivation therapy (ADT), but the effect is temporary and most cases recur and are aggravated. According to the concept of the cancer stem cell, prostate cancer may recur because of the presence of prostate cancer stem cell which is resistant to ADT. Therefore, we attempted to detect the presence of cancer stem cells in LNCaP cells cultured with androgen removal medium.
Materials and Methods: LNCaP cells were cultured in androgen removal medium. The residual LNCaP cells were examined on proliferation ability, invasion ability, and expression of cancer stem cell markers (CD133, CD44, and α2β1integrin), sphere formation assay, and expression of stem cell genes (nanog, sox2, OCT4A).
Results: LNCaP cells resulted in cessation of cell growth after androgen removal, but some cells survived and began to proliferate and formed colonies within a month. Residual LNCaP cells expressed α2β1 integrin and nanog on time dependency and showed sphere formation. Invasion ability of LNCaP cells accelerated after androgen removal, and all the invading cells expressed α2β1 integrin.
Conclusion: The present study revealed the presence of cancer stem cells in LNCaP cells after androgen deprivation. These stem cells may contribute the acquisition of androgen-independency and more malignant potentials.

UP.202
Gene Expression Control in Prostate Cancer Cells by an Artificial Radiation Inducible Promoter
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Introduction and Objectives: To construct an artificial promoter to be induced by X-ray irradiation (X-irradiation) in human prostate cancer cells that could be used for radiogenetic therapy.
Materials and Methods: A promoter library was developed that was composed of DNA fragments constructed by randomly elongating cis-acting elements of transcription factors (NFκB, AP-1, Oct-1, p53, Nrf-2) presumably activated in prostate cancer by radiation, and linking to the TATA box sequence. To improve promoter sensitivity, mutations were randomly introduced into the most sensitive promoter by error-prone polymerase chain reaction (epPCR). Transfected cancer cells were exposed to X-ray and the enhancement of luciferase expression was assessed by dual-luciferase assay and enhancement of fcy::fur fusion gene expression was assessed by real-time PCR and immunoblotting. Cell killing enhancement with fcy::fur gene, a therapeutic gene, was evaluated by WST-1 assay.
Results: Screening the constructed promoter library, clone 880 promoter revealed the strongest reactivity to X-ray in LNCaP cells. One of the clone 880-8 derivatives with randomly introduced mutations showed significantly improved reactivity. The mutant, clone 880-8 promoter showed highest dose-dependent activity enhancement with X-irradiation. A recombinant retrovirus expressing the luciferase gene under the control of clone 880-8 promoter was infected to LNCaP that showed 9.1 ± 0.4-fold enhancement of luciferase activity 12 h after X-irradiation at 10 Gy. When the infected cells were inoculated onto nude mice, luciferase expression was 4.3 ± 1.4-fold enhancement 12 h after X-irradiation at 10 Gy. When LNCaP was infected with another recombinant carrying the fcy::fur gene instead of the luciferase gene, its expression enhancement was confirmed by X-irradiation by immunoblotting and real-time PCR. Significant increase in dose-dependent cell killing was also observed when combined 5-fluorocytosine and X-irradiation.
Conclusion: These results suggest that the promoter could be a useful tool for cancer treatment of radiogenetic therapy.

UP.203
Vitamin D Deficiency and Low-Grade Pathogens in Aetiology of Prostate Cancer
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Introduction and Objectives: Estimations of sun exposure (but less so spot serum Vitamin D levels) correlate with risk of prostate cancer occurrence, suggesting that significance issue is long -term Vitamin D deficiency, possibly over 10-40 years. This, via diminished macrophage function, could allow persistence of low-grade pathogens to set up chronic inflammation that could lead to Proliferative Inflammatory Atrophy (PIA) of the prostate, now thought to be an important precursor of cancer. Despite multiple investigations of sexually transmitted infections, there has been no consistently-associated organism. However, recently, infection with two low-grade pathogenic organisms, teenage acne associated anaerobic bacterium Propionibacterium.acnes (PA) and protozoan Trichomonas vaginalis (TA), have shown a more consistent association with prostate cancer. This abstract reports the results of a systematic review of publications investigating the association of sun exposure

and prostate cancer and of PA and T V with prostate cancer and considers how these observations could lead to improved specificity of PSA screening
Materials and Methods: Pubmed searches using terms prostate or prostatic, sunshine or UVB or Vitamin D and acne or PA or TA were performed and the abstracts reviewed and appropriate papers selected for review and data extraction
Results: There were 1134 abstracts investigating PC and Vitamin D were two systematic reviews that failed to produce a consistent association. Four of four studies of an index of sun exposure involving 1568 patients (OR 0.75, 0.75, 0.59 & 0.89) and 6 of 7 geographic studies (0.32, 0.38, 0.44, 0.16, 0.52, 1.63 & 0.64) demonstrated an association of high UVB exposure with reduced PC risk. Four of five publications on PA and PC (1.7, 1.67, 2.17 & 0.67) and 2 of 3 publications on TV and PC (1.23, 1.43 & 0.83) showed consistent increase risk of PC associated with infection.
Conclusion: Lack of association with serum Vitamin D assays but strong association with index of sun exposure suggest the association is due to reduced long term Vitamin D mediated non-specific macrophage surveillance against lowly pathogenic agents of which PA and TV could be lead organisms. Impact on PSA of elimination of these organisms could become an important strategy in future efforts of to improve the specificity of PSA screening and chemoprevention of PC.

UP.204
Human Prostate Cancer Xenografts in Hosts Homozygous for the Lit Mutation Reduced both Androgen Dependent and Independent Progression
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Introduction and Objectives: Signaling through the growth hormone/insulin-like growth factor-I (GH/IGF-I) axis has been linked to prostate cancer risk. Previous studies have indicated that prostate and breast cancers develop more slowly in little murine hosts. The little (lit/lit) phenotype is due to a D60G missense mutation in the GH-releasing hormone receptor (GHRHR) resulting in loss of function of the pituitary GHRHR and secondary suppression of GH and IGF-1. We hypothesized that the GH/IGF-I axis influences androgen-responsive growth and androgen-independent progression.
Materials and Methods: To determine whether prostate cancer growth in vivo models is influenced by the host GH/IGF-I axis, we carried out in vivo growth studies using the androgen-dependent human prostate cancer cell line, LNCaP, and androgen-independent human prostate cancer cell line, PC3, in Nod/SCID lit/lit mice and compared them to growth and androgen-independent in mice heterozygous for the lit allele. To assess whether suppressed GH/IGF-I levels affected the growth of prostate cancer xenografts, we monitored tumor size and serum PSA levels of tumor-bearing lit/lit and lit/+ mice in LNCaP xenografts and only tumor size in PC3 xenografts. In vitro experiments, the cell growth of LNCaP and PC3 in lit/lit mice or lit/+ mice serum was examined to support in vivo experiments.
Results: Tumor growth and PSA accumulation rates were suppressed in LNCaP tumor-bearing lit/lit mice pre- and post-castration. Growth of PC3 xenografts in lit/lit mice was also suppressed. In vitro proliferation of LNCaP and PC3 cells cultured in media containing lit/lit mouse serum was decreased as compared to growth in media containing lit/+ serum. Suppressed growth in lit/lit serum could be restored by addition of IGF-I, and to a lesser extent, GH. Differences in growth correlated with differences in steady-state AKT and ERK1/2 activation.
Conclusion: The GH/IGF-I axis appears to be an important stimulator of both androgen-dependent tumor growth and androgen-independent progression of prostate cancer xenografts. The results motivate clinical trials of novel hormonal treatment strategies that target the GH/IGF-I axis for prostate cancer patients.

UP.205
PSA Gene Polymorphism and Its Role in Developing Prostate Cancer and PSA Production
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Introduction and Objectives: PSA is widely used as a diagnostic marker of prostate cancer (PC) however its biological role in the human body remains unclear. Androgen receptor binds to androgen response elements in the promoter region of the PSA gene, thus mediating PSA production. Polymorphism of this binding site may affect its binding affinity and further transcription of PSA gene. We investigated how PSA gene polymorphism influenced the serum PSA levels and its association with prostate cancer risk in the Slovak population.
Materials and Methods: The population-based case-control study included 216 cases with histologically proven PC and 225 age-matched controls (normal DRE, PSA within age specific normal level, clinically excluded BPH/BPE, no other suspicious affection of prostate, no family history of PC). The polymorphism in promoter region of the PSA gene (-158 G/A) was genotyped by PCR-RFLP method from blood samples with 3 resulting variants (AA, AG and GG). Nonparametric Kruskal-Wallis test and the odds ratios with 95% CI were calculated for different allele variants to determine their influence on PSA production and their association with PC.
Results: The distribution of PSA gene variants in the controls was consistent with Hardy-Weinberg equilibrium. The median PSA level in controls was 0.80 ng/ml in AA, 0.82 ng/ml in AG and 0.70 ng/ml in GG allele variants without statistical difference between groups (K-W test, $p=0.397$). The median PSA level in PC cases was 12.00 ng/ml in AA, 9.82 ng/ml in AG and 8.74 ng/ml in GG allele variants with no proven significant difference between groups (K-W test, $p=0.767$). The calculated ORs (95%CI) were 1.02 (0.60-1.72) for GG vs. AA, 0.95 (0.61-1.47) for GG+AG vs. AA, 0.91 (0.57-1.46) for AG vs. AA and 1.01 (0.78-1.21) for allele G vs. A with non-significant p values. No allele variant was associated with development of high risk PC (Gleason ≥7) with corresponding ORs to reference AA variant varying from 0.46 to 0.88 with p=NS. Moreover, we could not prove the substantial association of any allele variant with earlier carcinogenesis (ORs varying from 0.96 to 1.23 with p=NS).
Conclusion: We confirmed that in the Slovak population, PSA gene polymorphism (-158 G/A) did not change circulating PSA levels and it was not associated with PC regardless of disease onset or its risk rate.

UP.206
Role of Abnormal Prostate Specific Antigen and Abnormal Digital Rectal Exam in the Diagnosis of Prostate Cancer: A Cross-Sectional Study in Qatar
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Introduction and Objectives: Although the measurement of prostate-specific antigen (PSA) has improved prostate cancer detection, an optimal PSA cut-off value that would indicate prostate biopsy it not yet known. The aim of this study is to investigate the role of abnormal PSA and abnormal digital rectal examination (DRE) in the detection of prostate cancer (PCa) in Qatar.
Materials and Methods: Between June 2008 and September 2012, a total of 454 patients underwent transrectal ultrasound guided prostate biopsy (TRUSBP) at out center. The indications of biopsy were high PSA or abnormal DRE. All patients were assessed by a though history, clinical examination and routine laboratory investigations. None of the patients had current urinary tract infections, clinical prostatitis or history of prostate surgery. Data including age, DRE, transrectal ultrasound (TRUS) findings, total PSA level, prostate volume, and pathology results were evaluated. Patients diagnosed as Pca were further investigated and managed as appropriate.
Results: The study included 454 patients with a mean ± SD of 63.34 ± 8.06 years. Pca was detected in 119 patients (25.2%), benign prostatic hyperplasia (BPH) in 191 patients (42.1%) and prostatitis in 117 patients (25%). The sensitivity and specificity of abnormal PSA for detection of Pca were 94.1% and 15.2%, respectively. While the sensitivity and specificity of abnormal DRE for detection of Pca were 51% and 82%, respectively. The combination of abnormal PSA and abnormal DRE yielded a sensitivity of 98.3% and a specificity of 14.3%. Using receiver operating characteristics (ROC) curve, a PSA cutoff value of 5.7 was associated with the highest sensitivity (56.2%) and specificity (72.3%).
Conclusion: A PSA cutoff value of 5.7 was associated with a greater likelihood of Pca detection in Qatar. A result different from internationally reported values. This could be attributed to the higher incidence of prostatitis in our community.

UP.207
How to Avoid Unnecessary Prostate Biopsies in Daily Practices?
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Introduction and Objectives: Main issue in prostate cancer diagnosis is to identify men with cancers that actually need to be treated and helping to identify who should or should not undergo prostate biopsy.
Materials and Methods: From January 2006 to January 2012, a total of 1570 patients were included in the study. The Abbot PSA assay was used, and pretreatment prostate specific antigen level (PSA) was measured prior digital rectal examination (DRE) and transrectal ultrasound (TRUS) guided biopsies. The individual ANN predictions were generated with the use of ANN aplication for the Abbot PSA and free PSA assays, which rely on age, PSA, percent free prostate specific antigen (%fPSA), prostate volume, and DRE. Diagnostic validity of total prostate specific antigen (tPSA), (%fPSA) and the ANN was evaluated by ROC curve analysis.
Results: ASAP revealed at 136 pts (13.54%) with negative (high PSA level e. g. above 3ng/ml) prostate biopsies. At 111 pts (14.3%) revealed High PIN, and combination at 83 pts (8.34%) ASAP + High PIN (high PSA level, Low %ratio PSA). There were 291 pts with PCa, %ratioPSA is in negative correlation with PSA ($rs=-0.082$; $p<0.01$) while %ratioPSA is in positive correlation with age ($rs=0.169$; $p<0.01$), and prostate volume ($rs=0.016$, $p= 0.807$). DRE and prostate volume have not statistically significant difference between positive and negative pts.
Conclusion: ANN is easy, no additional cost tool helping urologist in daily practise which can contribute of avoiding unnecessary biopsies with no harms for long survival.

UP.208
Safety of Low Dose Aspirin Usage and Transrectal Guided Biopsy
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Introduction and Objectives: There is limited information of the relationship between continued use of aspirin and haemorrhagic complications after transrectal ultrasound-guided biopsy of the prostate.
Materials and Methods: From January 2006 to January 2010, 1220 men undergoing extended needle biopsies were divided in two groups; group I-those receiving aspirin and group II- those not receiving aspirin. The questionnaire was designed to assess the presence of hematuria, rectal bleeding, and hematospermia. Development of rectal pain, fever, and emergency hospital admissions following TRUS biopsy were also recorded.
Results: The patients' mean age was 64.5 years (range, 51 to 74 years) and 64.5years (range, 55 to 78 years) in groups I and II, respectively. The overall incidence of hematuria was 42% in group I compared with 61% in group II ($p=0.024$). The incidence of hematospermia was 11% and 13% in groups I and II, respectively. The incidence of rectal bleeding was similar in group I (40%) and group II (39%). Statistical analysis was conducted by using Fisher exact test.
Conclusion: Transrectal ultrasound guided prostate needle biopsy is safe for diagnosing prostate cancer with few major and minor complications. Aspirin use in patients' history is no risk factor for hematuria. This study suggests that it is not necessary to discontinue aspirin treatment before TRUS biopsy since it does not increase the morbidity of the procedure.

UP.209
Combination of Perianal EMLA Cream and Periprostatic Nerve Block for Pain Control during TRUS-Guided Prostatic Biopsy
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Introduction and Objectives: We tested the efficacy and safety of combined perianal lidocaine-prilocain cream (EMLA) and periprostatic nerve block during transrectal ultrasound-guided prostate biopsy.
Materials and Methods: A total 90 patients were randomized to receive combined perianal lidocain-prilocain cream (EMLA,5 gr) and periprostatic nerve block by 10 cc 1% lidocain (group 1) (45 patients); and periprostatic nerve block alone by 10 cc 1% lidocain (group 2) (45 patients). Pain was evaluated with a 10-point visual analog scale after transrectal probe insertion, and also immediatly after biopsy each patient were asked to rate the pain on a linear 10-point scale. Complications of pain medication administration in each group were noted and compared.
Results: The groups were comparable in patient age, prostate volume, and patology results. Pain medication administration was well tolerated by each group. Visual analog scale results for transrectal ultrasound probe insertion were lower in group 1 versus group 2 (1.2 vs 4.3

p<0.01). After biopsy visual analog score was lower in group 1 versus group 2 (1.3 vs 3.5 p<0.05) No major complications including sepsis and severe rectal bleeding were noted in any patient.We noted vasovagal near syncope in one patient in group 2.
Conclusion: Combining perianal lidocain-prilocain cream and periprostatic nerve block provided significantly better pain control than periprostatic nerve block alone.

UP.210
Should Bone Scan Be Performed in Chinese Prostate Cancer Patients at the Time of Diagnosed?
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Introduction and Objectives: Prostate cancer (PCa) is increasingly diagnosed in China. Early detection of bone metastases (BM) is critical in the management of patients with high-risk PCa. The aim of this study is to establish a screening model to determine if bone scan should be performed for BM in Chinese patients at the time when prostate cancer is diagnosed.
Materials and Methods: The study included 488 patients who were diagnosed with PCa between 2009 and 2011 at a single center. All patients received bone scans using technetium 99m methylene diphosphonate at the initial staging. If the bone scan finding was equivocal, computed tomography (CT) or magnetic resonance imaging (MRI) was performed to confirm the diagnosis. Age, prostate-specific antigen (PSA) at diagnosis, clinical stage assigned according to the TNM 2002 staging system and biopsy Gleason score were collected in all patients. Multivariate logistic regression analysis was performed to identify statistically significant co-variates and then receiver operating characteristic (ROC) curves were generated to identify optimal-cut-off values. Using these cut-off values, a formula was devised to calculate an index value for BM screening at diagnosis. The model was cross-validated using the leave-one-out method.
Results: Of the 488 patients, 65 patients (13.3%) had BM. The area under the ROC curve was 0.87 (95% confidence interval = 0.83 - 0.94). The sensitivity of the cut-off point was 87.7%, and the specificity was 73.1%. Bone scan is needed for all cT4 PCa patients, however, it is advisable for cT1-T3 PCa patients who have a biopsy Gleason score ≤3+4 and a PSA >132.1 and for cT1-T3 patients having a Gleason score of ≥4+3 and PSA >44.5.
Conclusion: The regression model may help determine if bone scan is needed to detect BM from PCa at the time of diagnosis. The model was generated upon a single center experience. Further validation is needed in future studies.

UP.211
Predictive Factors for Locally Advanced Prostate Cancer in Prostate Cancer Patients with Gleason Score 6 or Lower
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Introduction and Objectives: In this study we investigated prostate cancer patients whose prostate biopsy showed Gleason score of 6 or lower in order to identify, among a variety of preoperative factors, the ones that can be used for the prediction of locally advanced prostate cancer.
Materials and Methods: Among 1,400 patients who underwent prostate biopsy during the period from January 2006 to March 2011, 161 prostate cancer patients who had Gleason score of 6 or lower and subsequently underwent radical prostatectomy were included in this study. We investigated patient's age, preoperative prostate-specific antigen, longest tumor length, the max. core percentage of the longest tumor (percentage of the longest tumor length in total core length), the number of positive cores found during biopsy, invasion into surrounding nerves, and body mass index at the time of diagnosis. Patients were divided into two groups - one with disease phase type pT2 or below (Group I), the other with pT3 or higher (Group II) based on the results of postoperative biopsy, and inter-group comparison and analyses were performed to investigate the associations with each factor using single variate and multivariate analyses.
Results: Out of 161 patients, 19 (11.8%) were diagnosed with pT3 by postoperative biopsy. Mean age of patients in Group I and Group II was 67.5±7.2 years and 72.9±6.6 years (p=0.002), body mass index 23.3±3.2 kg/m^2 and 22.9±2.7 kg/m^2 (p=0.585), and prostate-specific antigen level 5.6±2.3 ng/ml and 6.1±2.4 ng/ml, respectively (p=0.332). The longest tumor length was 4.2±3.1 mm and 6.8±4.0 mm (p=0.007), the max. core percentage of the longest tumor 33.1±24.0% and 66.5±41.1% (p=0.013), respectively. The number of positive cores was 2.5±1.7 and 4.0±3.3 (p=0.072), the percentage of the positive cores 28.1±26.6% and 42.6±28.7% (p=0.033), respectively. Single variate analysis revealed that age, longest tumor length, the max. core percentage of the longest tumor, and the percentage of positive cores were associated with Group II (p<0.05), while multivariate analysis revealed the association with Group II in only the max. core percentage of the longest tumor (P=0.0020) and the percentage of positive cores (p=0.019).
Conclusion: We believe that. even in patients whose histological examination show Gleason score of 6 or lower, disease phase may be pT3 or higher if either the max. core percentage of longest tumor or the percentage of positive cores is high. Therefore, special care should be exercised in performing prostatectomy.

UP.212
Safety of Transperineal Prostate Biopsy in Patients Receiving Antiplatelet/Anticoagulant Therapy: A Propensity Score Matching Analysis
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Introduction and Objectives: Antiplatelet/anticoagulant agents are widely used in elderly patients for prevention of cerebrovascular and cardiovascular events. However, it has not been well studied whether these agents should be interrupted before transperineal prostate biopsy (TPBx) to reduce hemorrhagic risk. Hence, we evaluated the incidence of bleeding-associated events and severity of hemorrhagic complications in patients continuing of antiplatelet/anticoagulant therapy by transrectal ultrasound (TRUS)-guided TPBx.
Materials and Methods: Between July 2008 and August 2012, a total of 811 patients who underwent TRUS-guided TPBx were retrospectively evaluated. The patients were divided into three groups: patients having continuous antiplatelet/anticoagulant therapy (group I, n = 103), a control group without the therapy (group II, n = 672), and those who interrupted the therapy before TPBx (group III, n = 36). Group I was compared with group III by the propensity score matching (PSM) analysis. Thirty three well-matched pairs of group I and group III patients were obtained and analyzed statistically in some parameters. The pa-

rameters of investigation were incidence rates of bleeding-associated events (gross hematuria, perineal hematoma, and rectal bleeding), and hemorrhagic complications which were graded as mild (i.e., need for a doctor's consultation without medication), intermediate (i.e., required any kind of intervention including medication, catheterization, or blood transfusion), or severe (i.e., life-threatening complications resulted in intensive care unit management or death).
Results: The overall incidence of gross hematuria was 58.3% (60/103) in group I, 45.5% (306/672) in group II, and 47.2% (17/36) in group III (P = 0.06). By contrast, overall incidence of perineal hematoma and rectal bleeding were low in all three groups (1.9/2.4/2.8%, P = 0.16, and 0/0.1/0%, P =0.90, respectively). Of 811 patients, mild and intermediate hemorrhagic complications occurred in eleven and four patients, but no severe complication was experienced. The PSM analysis showed no significant difference in the incidence of bleeding-associated events and hemorrhagic complications between group I and III.
Conclusion: Continuous administration of antiplatelet/anticoagulant agents around TPBx showed a nonsignificant increase in gross hematuria but did not cause severe hemorrhagic complications. Interruption of these agents before TPBx appears to be unnecessary.

UP.213
Digital Rectal Examination Remains an Important Screening Tool for Prostate Cancer in the Current Prostate-Specific Antigen Era
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Introduction and Objectives: Currently, digital rectal examination (DRE) as a screening test for prostate cancer (PC) is controversial. Our aim is to evaluate the additional value of a suspicious DRE for the detection of PC in men with an elevated PSA on cancer detection rate on initial prostate biopsy.
Materials and Methods: From our IRB approved data base, 1510 men with a PSA level from 2.5 ng/dl to 19.9 ng/dl were prompted a DRE and an office based initial transrectal ultrasound (TRUS)-guided prostate biopsy. Abnormal DRE was defined as the presence of nodularity or indurations. We divided the men into two groups based on DRE findings with further subdivision based on type of abnormality we found whether indurations or nodularity. We analyzed different groups in relation to the findings on initial biopsies regarding PC detection rate and PCa aggressiveness in positive biopsies (Gleason score, percentage of positive cores and maximum cancer percent per core).
Results: There were 17.6% of men who had abnormal DRE. Cancer was detected in 58.5% men with an abnormal DRE compared to 39.9% men with a normal DRE (P<0.05). Moreover, patients with abnormal DRE who had PCa on initial biopsy showed more aggressive cancer in the form of high Gleason disease > 7 (p <0.05), percentage of positive cores (p <0.05) and maximum cancer per core (p <0.05) (Table 1). Our analysis showed that the presence of indurations on DRE is associated with higher cancer detection rate as shown in Table 2.
Conclusion: The PCa detection at initial biopsy was higher in men with an abnormal DRE (indurations or nodularity) and the combination of a PSA level > or =2.5 ng/ml with a suspicious DRE resulted in detecting significantly more PCs with Gleason score >7.

UP.214
Clinical Value of Template-Guided Transperineal Prostate Biopsy for the Diagnosis of Local Recurrence after Permanent Brachytherapy
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Introduction and Objectives: From September 2003 to October 2012, 1974 patients with localized prostate cancer were treated with permanent iodine-125 seed implantation brachytherapy (BT) at single institute. According to the protocol, none of them have received adjuvant hormone therapy. Their 5-year overall survival rate was 97.11% and biochemical relapse free survival rate was 97.8%. To evaluate local cancer recurrence, template guided transperineal prostate biopsy (TPBx) was performed for those cases diagnosed as biochemical failure (BF).
Materials and Methods: Out of 1974 patients, 112 patients were diagnosed as BF. Among those failure cases, 47 patients received TPBx. TPBx was performed under lower supine anesthesia with the same preparation as BT. Template for BT and biplane trans-rectal ultrasound was used for the direction guidance of biopsy needle. TPBx was usually performed at least 2 years after BT for patients that showed BF without clear evidence of clinical failure. Average duration from BT to TPBx was 49.2 (ranged 10 to 89) months. Average number of sample cores in each biopsy was 31 (ranged 17 to 51).
Results: Seventeen out of 47 TPBx cases (36.2%) revealed positive for cancer detection and the positive core rates ranged 2.9 to 23.7%. Ten out of 17 TPBx positive cases (58.8%) showed higher Gleason score than initial biopsy. Among 17 TPBx positive cases, 8 received salvage (2^{nd}) BT, 8 received hormone therapy and 1 was followed without any salvage treat-

UP.213, Table 1. Overall cancer detection and PCa disease burden in men with abnormal DRE

	Abnormal DRE	Normal DRE	P value
No.	265	1245	
PSA (mean)	6.76 (2.5-19.6)	6.53 (2.5-19.8)	0.312
Cancer detection rate (%)	155/265 (58.5)	497/1245 (39.9)	<0.05
Gleason score >7 (%)	40/155	53/497	<0.05
Gleason score =7 (%)	76/155	191/497	<0.05
Gleason score <7 (%)	39/155	253/497	<0.05
Percentage of positive cores (%)	42.8	27.2	<0.05
Maximum cancer percent per core (%)	58.7	39.2	<0.05

UP.213, Table 2. Cancer detection in men based on type of DRE abnormality

	Indurations	Nodularity	P value
No.	73	192	
PSA (mean)	7.4	6.5	0.09
Cancer detection rate (%)	50/73 (68.5)	105/192 (54.7)	0.04

ment by patient's wish. Among 30 TPBx negative cases, 24 with subsequent appearance of metastatic site with images or substantial rise of PSA have received hormone therapy. Six patients without metastatic site and with stable or minimum PSA rise have been able to be observed without any salvage treatment.
Conclusion: TPBx is an only reliable method for detecting local recurrence of prostate cancer after BT and the results may assist in considering whether to perform immediate salvage treatment or to watch.

UP.215
Pretest Probability of Prostate Cancer for Patients Undergoing Prostate Biopsy
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Introduction and Objectives: Prostate cancer (PCa) screening using the prostate-specific antigen (PSA) test is common in clinical practice although little is known about pretest probability and positive predictive value of this test. The present study was designed to predict the probability of PCa with regard to the combination of serum PSA level and age, an important risk factor for PCa.
Materials and Methods: In a hospital-based case control study, 160 patients along with 190 controls were enrolled. Using a logistic regression model and the Odds Ratio of age and PSA level, the probability of PCa was estimated based on serum PSA level and age of the participants.
Results: The mean age of PCa and BPH cases was 67.75 (±8.81) and 62.07 (±8.71) years; respectively (P.V=0.000). The increase in life decades of the cases almost doubles the risk of developing prostate cancer (OR=1.95, pv=0.00) and the probability of developing PCa increases by 90% for every decade after the fifties (ORadj= 1.90, p.v=0.000). The probability of developing cancer may reach 74% considering the increase in ketchup consumption (low, moderate, high). Other variables (except red meat that showed a protective effect in developing cancer P.V=0.07; OR=0.75) did not have any significant relationship with developing PCa.
Conclusion: In clinical practice, PSA level combined with the age of presentation can be a good predictor for PCa probability and the necessity of biopsy.

UP.216
Evaluating Real-Life Practice of Active Surveillance of Prostate Cancer
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Introduction and Objectives: Active surveillance (AS) protocols have been developed as a less invasive alternative to curative procedures in patients with low-risk prostate cancer. AS guidelines have been established in the research setting, but real-life experience of urologists and their patients can differ greatly. We compiled data spanning 8 years of active surveillance for a cohort of 114 patients, thus providing us with the unique opportunity to assess our performance, to identify strengths and weaknesses, and to delineate the most realistic and appropriate approach to active surveillance in a community urology practice.
Materials and Methods: A chart review was conducted on 114 patients who undertook active surveillance between 2001 and 2012, and our results were compared to current active surveillance guidelines. Further, PSA, gland volume, DRE, and histological data was extracted from patient charts and Spearman correlation analysis was performed to identify the optimal non-invasive predictors of disease progression.
Results: Of 114 patients on active surveillance 53 underwent 2 or more biopsies; mean biopsy interval was 16.5 months (range: 3 – 37); average PSA rate between 1st and 2nd biopsies was 0.9/month (range: -1.19 – 1.3); pre-biopsy PSA level was 5.19 (range: 0.3 – 10.9), and PSA density 0.17 (0.02-0.94). There was no correlation between PSA rate and biopsy interval. However, a strong relationship between PSA level and biopsy interval was demonstrated with a correlation coefficient of 0.17 ($p = 0.044$). PSA density was the only non-invasive measure that correlated with histological outcome with a correlarion coefficient between PSA density and Gleason score of 0.18 ($p = 0.034$) and 0.24 ($p = 0.05$) for the 1st and 2nd biopsy, respectively.
Conclusion: Therefore PSA values influenced the physician/patient to obtain a repeat biopsy sooner but PSA rate did not. Further, PSA density may be an invaluable and easy to use tool in a community urology practice in order to monitor progression of prostate cancer, and thus trigger repeat biopsy.

UP.217
Prostate Biopsy Core Length in the Setting of an Experienced Examiner Does Not Matter
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Introduction and Objectives: The impact of biopsy core length on cancer detection rate was recently considered an important morphometric parameter of transrectal prostate biopsy, directly influencing the cancer detection rate (J Urol 2012, 187: 2051-2055). We assessed the role of biopsy core length in prostate biopsy in the setting of an experienced examiner.
Materials and Methods: We prospectively analyzed the records of 557 patients who underwent 12 cores transrectal ultrasound guided initial prostate biopsy. The biopsy procedure and pathological evaluation were standardized and done by the same expert examiner and uropathologist, respectively. Core length was compared in patients with vs without cancer.
Results: The overall cancer detection rate was 35.55%. Mean core length in patients with vs without cancer was 11.37 ± 3.64 vs 11.39 ± 3.36 mm ($p = 0.32$). The mean age was 65.09 years ± 8.72, mean prostate volume was 52.31 g ± 31.38 and mean total PSA was 11.65 ± 39.04. Patients at greatest risk of positive biopsy were those with the highest PSA density (each 0.1 unit density increases the risk 14.4%), and older age (each year of age the risk increases 3.9%).
Conclusion: Needle core length is homogeneous in the setting of an experienced examiner and does not influence the cancer detection rate.

UP.218
Transrectal Ultrasound (TRUS) Prostate Biopsy Related Sepsis: Can We Reduce the Rate?
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Introduction and Objectives: Sepsis following a Transrectal Ultrasound (TRUS) prostate biopsy is potentially a life-threatening complication, which has a reported rate of 1-3%. An initial audit at our institution revealed a higher rate of sepsis. Ciprofloxacin resistant E.Coli was found to be the responsible organism in several cases. This prompted a change in the antibiotic protocol and a re-audit was performed.
Materials and Methods: Initially, all patients who underwent TRUS prostate biopsies between April and November 2009 were retrospectively audited. These patients received prophylactic oral Cipro-

floxacin and Metronidazole both before the procedure and for three days after. A record was made of subsequent sepsis development and its potential risk factors. These included the operator performing the procedure, number of biopsies taken and patient factors such as age, diabetics, recurrent UTIs, MRSA status, presence of a urinary catheter, previous prostatitis and past TRUS biopsies. The audit was repeated between April and November 2010 following the addition of intravenous Gentamicin to the antibiotic protocol.
Results: During the initial audit, 135 patients were identified. Eleven (8%) developed sepsis. During the re-audit, following the addition of intravenous gentamicin, 147 patients were identified, of which only three (2%) developed sepsis ($p = 0.011$; Chi-squared). The rates of sepsis for both cohorts were independent of the operator performing the procedure, number of biopsies taken and patient risk factors. Cases of Ciprofloxacin resistant E.Coli were noted during both audits.
Conclusion: The addition of intravenous Gentamicin has significantly reduced the rate of sepsis following TRUS prostate biopsies and this is independent of other risk factors.

UP.219
Is the Prostate Biopsy's Tumour Side and Positive Core Numbers Related to Radical Prostatectomy's Tumour Side?
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Introduction and Objectives: To determine the relationship between the biopsy's tumour side, positive core number and prostatectomy's tumour side.
Materials and Methods: Our clinic's prostate cancer database was reviewed. TRUS biopsy results of the patients who had radical prostatectomy were separated as 1, 2, 3, 4, 5 and more. Tumour sides were recorded. Their compatibility was compared with radical prostatectomy pathologies. If positive core side and the prostatectomy's tumour side is the same it is described as compatible. If the biopsy and the prostatectomy tumour side are at both lobes it is described as bilateral. If positive core side and the prostatectomy's tumour side is different it is described as incompatible. If it isn't described in the pathology specimen it is described as unknown.
Results: From 2000 to 2012, 160 patients had radical prostatecomy. Mean age was 62.4 (45-72), mean PSA level was 9.88 (0.6-35.5) ng/ml. There were 1,2,3-positive core numbers were not recorded in 11 patients. There were 4.5 and more core numbers in order 32, 47, 38 and 32 patients. The ratio of patients whose tumour side wasn't known in order 62.5%, 5%1, 44.7% and 37.5%. The assessment according to knowns is shown in Table 1. The incompatibility with positive biopsy side and tumour at prostatectomy specimen was 4.7% and 10%. According to side and positive core number pathology side thought of one sided can be bilateral at the radical prostatectomy specimen at the 28.5-41.6%.
Conclusion: According to our results biopsy tumour side and positive core numbers are not a predictive parameter of prostatectomy tumour side.

UP.219, Table 1.

Positive core number	Compatibility with the radical prostatectomy specimen			
	Compatible Number/Ratio	Bilateral Number/Ratio	Incompatible Number/Ratio	Total Number/ Ratio
1/12	6(50)	5(41,6)	1(8,4)	12(100)
2/12	12(52,1)	9(39,1)	2(8,6)	23(100)
3-4/12	14(66,6)	6(28,5)	1(4,7)	21(100)
5 and more/12	17(85)	1(5)	2(10)	20(100)

UP.220
MRI-Ultrasound Fusion Targeted Biopsies Using Varian Brachytherapy Software: A Practical Solution to Precision Prostate Diagnostics
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Introduction and Objectives: Multiparametric MRI-ultrasound fusion targeted biopsies (M-UFTB) of "suspicious lesions" is a developing area in prostate cancer diagnostics. We describe our technique for transperineal M-UFTB using standard brachytherapy software a system available to most cancer centres (Variseed 8.0.2, Varian Medical Systems), with the additional "image-fusion" license option.
Materials and Methods: A total of 47 men with a lesion suspicious of cancer on multiparametric MRI underwent transperineal MRI-UFTB. MRI images are imported into the Variseed software where the Region of interest (ROI) and peripheral zone (PZ) sectors are contoured separately. Live US images of the prostate are acquired and fused with the previously contoured MRI images. The ROI is biopsied first followed by targeted PZ sector biopsies using a localisation protocol. The primary outcome measure was detection of clinically significant cancer maximum cancer core length ≥4mm and/or Gleason Grade ≥3+4.
Results: Mean age was 64 years (49-67), median PSA was 6.3 ug/L (1.2 – 23.3) and median prostate volume 48mls (20-120). Overall cancer was detected in 79% (37) of patients. Cancer was detected in the ROI in 68% (32), 69% (22) of these were clinically significant. Clinically significant cancer was found in TPSB outside of the ROI in 34% (16).
Conclusion: M-UFTB can be carried out with existing Varian brachytherapy software; when combined with transperineal sector biopsies > 75% are positive, but clinically significant disease may exist outside of the ROI.

UP.221
Can Phytotherapy Prevent from Unnecessary Repeat Biopsy?
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Introduction and Objectives: To assess the effects of Cernitin pollen extract (Cpe) on PSA in asymptomatic men after negative 1st biopsy and on repeat prostate biopsy decision.
Materials and Methods: A total of 228 asymptomatic men with elevated PSA (4.0-10.0 ng/dl) after negative 1st biopsy were given Cpe 504mg/day for a long term (n=114) and not given phytotherapy (n=114) followed by repeat PSA. Repeat biopsy was recommended at change: PSAv>0.75ng/ml/yer, PSA >10ng/ml. We compared pre- and post-treatment PSA as well as PSA changes, with or without chronic histologic prostatic inflammation (CHPI) on 1st biopsy between prostate cancer cases and non-cancer patients.
Results: In 114 patients with Cpe Mean (±SD) PSAv was 0.27±1.3 ng/ml/yer, on the other hand. In 114 without Cpe Mean (±SD) PSAv was 0.78±0.7 ng/ml/yer ($p<0.01$). The difference in positive

biopsy number, cancer profile between phytotherapy and non-phytotherapy was not statistically significant (p=0.73, 0.65). However the difference in Repeat-biopsy number and Positive Repeat-biopsy rate was statistically significant (P<0.01). A similar tendency was seen among limited 42 patients with CHPI as well.
Conclusion: Phytotherapy: Cpe resulted in an overall decrease in PSA for asymptomatic men with PSA in the 4-10 ng/dl range compared patients without Cpe. There is some possibility Cpe could prevent from unnecessary repeat biopsy after negative 1st biopsy.

UP.222
Patterns of Management of Localized Prostate Cancer in Developing Countries with Limited Financial Resources
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Introduction and Objectives: Localized prostate cancer (CaP) is the most commonly diagnosed stage of the disease. Its management depends on many factors; first, the patient related parameters namely age, general health, expectations; next, the Urologist's related qualifications namely training, interest and surgical expertise; lastly, institutional related factors namely availability of technically advanced setups such as Robotics, EBRT, Brachytherapy, Cryo and HIFU. In this report, we examine the patterns of management of localized CaP in a developing country with limited resources.
Materials and Methods: A total of 50 pts consecutive with localized prostate cancer were evaluated for patterns of management. Ages ranged between 52 and 79 years, PSA ranged between 3.5 and 54ng/ml and Gleason score ranged between 6-8 with a median of 6. Robotics, Bracytherapy, Cryo, HIFU and focal therapy were not available in the country.
Results: Among the 50 pts, 28 (56%) underwent radical retropubic nerve sparing, when needed, prostatectomy (RRP). Two of those 28 pts had Robotic Assisted RRP in another country. PSA ranged between 3.5-12.9ng/ml with a median age of 63 years. There were 17/50 pts (34%) that had EBRT (one had Cyber knife in another country). PSA ranged between 6.54-54ng/ml with median age of 71 years. Finally, 5/50 pts (10%) were placed on active surveillance.
Conclusion: Limited resources of medical centers in developing countries preclude the purchasing of expensive therapeutic modalities especially if there are equally effective and less costly alternatives. Surgeon's qualifications and expertise continue to influence the choice of management since many pts trust the surgeon to make the choice for them.

UP.223
Clinical and Histological Prostatitis in Patient Undergoing Radicprostatectomy for Localized Psostate Cancer
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Introduction and Objectives: Few patients (pts) with prostate cancer (CaP) report past history of prostatitis, yet the association between them is gaining more interest. Whether prostatitis is a precursor for or protector against CaP is unclear. We examined the relationship between prostatitis and cancer and the effect on tumor parameters in pts with localized prostate cancer treated with radical prostatectomy.
Materials and Methods: A total of 104 pts with localized CaP underwent radical retropubic prostatectomy. PSA ranged between 2.0 and 35 ng/ml. Only three pts reported history consistent with chronic prostatitis in the past and five pts developed acute prostatitis following the needle biopsy at time of diagnosis. Pathological evaluation of the specimen focused on Gleason score, tumor volume (as a percentage of total gland volume), resection margins and presence of inflammation – focal or diffuse. The inflammation was labeled as focal when the acute and/or chronic inflammation constituted up to 10% of total prostatic volume and lacked any secondary architectural changes. Diffuse inflammation included more prostatic volume or showed evidence of glandular invasion or parenchymal destruction.
Results: Among the 104 pts, 68 (66%) had concomitant inflammation (Group 1-GI); 35 focal (GIa), they include the 3 pts with history of chronic prostatitis and 33 diffuse (GIb), they include the 5 pts with post biopsy infection. In 36/104 pts (34%) inflammation with cancer was not seen (Group 2-GII). Median preoperative PSA for GI was 7.16 ng/ml (range: 1.76 to 35.0) with medians of 6.74 ng/ml for GIa and 7.16 ng/ml for GIb while median PSA for GII was 5.26 ng/ml (range: 2.3 to 19.3) (p = 0.13). Median Gleason score was 7 in both groups (range: GI 4-9, GII 5-9). Median percent tumor volume was 8% in GI (GIa 10%, GIb 5%) and 15% in GII. Also, 18/68 pts (26%) of GI had positive surgical margins (11/35 pts in GIa and 7/33 pts in GIb) compared to 12/36 pts (34%) of GII.
Conclusion: History of clinical prostatitis is not common in pts with localized CaP but concomitant histologic prostatitis is common (up to 66%). The presence of inflammation does not affect tumor grade but there is tendency for lower tumor volume. Organ confined disease is seen more in patients with inflammation. Possible explanation is that high PSA of patients with inflammation contributes to diagnosis of cancer at a lower volume and more confined disease.

UP.224
Differences in the Profile of Biochemical Recurrence after Radical Prostatectomy between Patients with Organ-Confined Disease and Positive Surgical Margins and Patients with Extracapsular Disease
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Introduction and Objectives: It is not well documented if a positive margin without extracapsular disease has the same prognosis of a positive surgical margin with extracapsular disease at radical prostatectomy specimens. Objectives: To assess the profile of biochemical recurrence (BR) of organ-confined disease patients (OCD) versus patients with extracapsular disease (EPD) according to their surgical margins (positive (SM+), negative (SM-).
Materials and Methods: Observational study of a cohort of 972 RP performed between 1994-2011. The prognosis study of BR was performed using Cox regression. Survival analysis for the variable BR was done using Kaplan-Meier.
Results: Sample size (n): OCDSM-=609, OCDSM+=46, EPDSM-=66, OCDSM+=118. Association of each group with preoperative quantitative variables: PSA diagnostic (ng/ml): OCDSM-=11.9, OCDSM+=11.8, EPDSM-=9.5 EPDSM+=14, p<0.001, age at diagnosis (years): OCDSM-=63, OCDSM+=65, EPDSM-=64, EPDSM+=65, p=0.01. Comparing clinical staging of OCDSM+/OCDSM- and EPDSM+/EPDSM-, we found a higher percentage of clinical stage >T1c, 37%/25%, p=0.007; OR (95%CI) =1.7 (1.1-2.5) and 57%/40%, p=0.004; OR (95%CI) =1.9 (1.03-3.5) respectively. Compar-

ing the Gleason score of the piece (≥ 8/<8), the presence of lymphovascular (LVI) and perineural (PNI) invasion of patients with OCDSM+ versus OCDSM-, a higher percentage of Gleason grade ≥ 8, presence of LVI, PNI and N positive (p=0.03, p=0.004, p<0.001) was found in OCDMQ+. Comparing these variables in EPDSM+/EPDSM-, a higher percentage presence of LVI (p=0.03) was found in EPDSM+. Comparing the percentages of BR for OCD (SM+/SM-), 34%/15% of BR was found, p<0.001; OR (95%CI) =3.1 (2.0-4.7) and comparing EPD (SM+/SM-) 52%/29% of BR, p=0.003; OR (95%CI) =2.6 (1.3-5). On multivariate analysis of independent prognostic factors of BR, EPDSM+ versus OCDSM+ does not behave as an independent prognostic factor. See Table 1.

Conclusion: The positive surgical margins are associated with higher PSA and with increased clinical staging at diagnosis. However, the presence of EPDMQ+ compared to OCDSM+ is not an independent prognostic factor in multivariate analysis.

UP.224, Table 1.

	p	HR	IC95%	
			Lower	Higher
PSA diagnostic (>10/≤10 ng/ml)	0.05	1.2	1.01	2.4
Seminal vesicle invasion (yes/no)	0.01	1.3	1.1	1.8
Margin type (diffuse/the rest)	0.04	1.2	1.1	2.4
EPDSM+/OCDSM+	0.3	1.2	0.7	2.0

UP.225

Intravesical Prostatic Protrusion: as a Predictor of Early Urinary Continence Recovery after Laparoscopic Radical Prostatectomy

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Introduction and Objectives: We evaluate the significance of intravesical prostatic protrusion (IPP) as a predicting factor of early urinary continence recovery after laparoscopic radical prostatectomy (LRP).

Materials and Methods: Between 2002 May and 2011 September, 242 patients underwent LRP for clinically localized or locally advanced prostate cancer. The correlation between preoperative factors, such as age, prostate volume, and IPP, and urinary continence following LRP was examined. We retrospectively collect the data of incontinence status and the number of pads required per day for urinary incontinence. IPP was measured by the vertical distance from the tip of the protruding prostate to the base of the urinary bladder in the sagittal plane of preoperative magnetic resonance imaging (MRI), which reflects the maximum longitudinal length of the prostate.

Results: The urinary continence rates at postoperative month 1, 3, and 6 were 19% (n=46), 50% (n=121), 79.8% (n=193) respectively. In the univariate logistic analysis, age at surgery was associated with incontinence only at 6 and 12 months after surgery (p=0.044 and p=0.035, respectively). The prostate volume was associated with incontinence at 3, 6, and 12 months after surgery (p<0.05). IPP was also associated with incontinence at all period after surgery (P<0.05). In multivariate logistic analysis, the odds ratio (OR) of IPP at each period were 1.17 (95% confidence interval [CI], 1.02 to 1.35; p=0.024), 1.16 (95% CI, 1.07 to 1.27; p=0.001), 1.14 (95% CI, 1.06 to 1.23; p=0.001), and 1.14 (95% CI, 1.04 to 1.25; p=0.007), respectively. Continence at 1, 3, 6, and 12 months postoperatively was assessed by dividing into 2 groups based on the degree of IPP. Significantly improved continence was observed in non-significant IPP at 1, 3, 6, and 12 months postoperatively (p<0.05).

Conclusion: The results of our study have shown that incontinence rate after LRP is correlated with IPP.

UP.226

The Impact of Technology on Active Treatment of Prostate Cancer

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Introduction and Objectives: Minimally invasive radical prostatectomy (MIRP) and intensity modulated radiotherapy (IMRT) promise better cancer control and decreased side effects, but come with an investment cost of $2-3 million. Many worry that the perceived advantages of these new technologies and the need to recoup investment costs may increase the number of patients who receive active treatment versus expectant management. In this context, we examined the association of technology penetration with receipt of active treatment for prostate cancer.

Materials and Methods: We used data from the Surveillance Epidemiology and End Results (SEER) – Medicare linked database to identify all patients with loco-regional prostate cancer who were treated or managed expectantly from 2003-2007 (n=50,811). Using provider identifiers from the claims data, we measured technology penetration as the number of providers performing MIRP or IMRT per population in a market (hospital referral region). We then performed multivariable multinomial logistic regression to examine the association of technology penetration with receipt of prostatectomy or radiotherapy versus expectant management. Models were adjusted for patient and market characteristics, and for clustering of patients within markets.

Results: For each 1,000 patients diagnosed with prostate cancer, 200 underwent prostatectomy, 574 radiotherapy, and 226 were managed expectantly. In multivariable analyses, markets with high MIRP penetration had a higher utilization of prostatectomy (179 vs. 145 per 1,000 men, p=0.006) but decreased utilization of radiotherapy (621 vs. 655 per 1,000 men, p=0.026), resulting in a stable rate of active treatment. High versus low IMRT penetration did not significantly impact use of prostatectomy (158 vs. 159 per 1,000 men, p=0.960) and radiotherapy (645 vs. 638 per 1,000 men, p=0.716). Similar trends were observed among a subset of patients with low risk prostate cancer.

Conclusion: Increased MIRP penetration was associated with higher utilization of prostatectomy, decreased use of radiotherapy, and no change in expectant management. Our findings allay concerns that new technology drives active treatment of prostate cancer.

UP.227

Impact of Combined Androgen Blockade after Radical Prostatectomy on the Survival of Patients with Pathological T3bN0 and pN+ Prostate Cancer

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Introduction and Objectives: To determine the impact of combined androgen blockade (CAB) on survival in patients with seminal vesicle invasion (pT3b) and pelvic lymph node metastasis (pN+) who underwent radical prostatectomy. There are few repots about locally advanced prostate cancer (PCa) treated with LHRH analog and anti-androgen (bicartamide or flutamide) after radical prostatectomy.
Materials and Methods: We reviewed 900 patients who underwent radical prostatectomy at out hospital between 1987 and 2011 and identified 63 patients with pT3bN0 and 28 patients with pN+ PCa who received adjuvant CAB. Clinical endpoints included biochemical progression-free survival (BPFS), local recurrence-free survival (LRFS), systemic progression-free survival (SPFS), cancer-specific survival (CSS) and overall survival (OS).
Results: Patients who underwent adjuvant CAB experienced improved 5 and 10-year BPFS, LRFS, SPFS and CSS. Five- and 10-year OS was not significantly different between the pT3bN0 and pN+ groups (82% vs. 70%, p = 0.12). Pelvic soft tissue recurrence was observed more frequently in pN+ cases compared to pT3bN0. Local recurrence occurred in 8/28(28.6%) pN+ and in 2/63 (3.2%) pT3bN0 patients (p<0.01). Six patients had one side pelvic lymph node metastasis and 5/6 (83.3%) of them developed same side local recurrence.
Conclusion: Patients with locally advanced PCa (pT3b, pN+) treated with CAB have survival advantage. No difference in OS was observed between pT-3bN0 and pN+ patients. However, pelvic soft tissue recurrence was much more common in pN+ than pT3bN0 and local recurrence on the same side of the pelvis as LN metastasis was frequently seen.

UP.228
Contemporary Trends of Radical Prostatectomy and Early and Late Recovery of Urinary Continence in Elderly Patients

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Introduction and Objectives: Due to a marked increase in life expectancy, general approach in elderly patients has tended to be changed from conservative to curative intent. We aimed to evaluate the current treatment trend in elderly patients with prostate cancer, and identify the predictive factors for recovery of urinary continence after radical prostatectomy (RP).
Materials and Methods: Between January 2004 and June 2011, total of 1168 patients who had undergone RP were included in this retrospective analysis. Patients who had a neurogenic bladder, received adjuvant radiation therapy, or had not sufficient information about continence were excluded from this analysis. Of the eligible patients, 887 (75.9%) were aged ≤ 70 years and 281 (24.1%) > 70 years. Early (3 months after RP) and late (1 year after RP) continence rates were compared according to the periods of RP (2004 to 2006, 2007 to 2009, and 2010 to 2011). Multivariable logistic regression analysis was performed to identify the predictive factors for early and late recovery of continence.
Results: As the years go by, proportion of the elderly in overall patients who had undergone RP gradually increased: 17.5% in 2004-2006, 25.2% in 2007-2009, and 28.2% in 2010-2011. In the elderly patients, early and late continence rates were 44.2% and 78.8% in 2004-2006, 41.1% and 67.5% in 2007 to 2009, and 51.5% and 90.9% in 2010 to 2011, respectively. In multivariable analysis including age, body mass index, type of surgery (open vs. robotic), PSA, Gleason score, prostate volume, membranous urethral length (MUL), neurovascular bundle saving, and pathologic stage, MUL was only identified as a prognostic factor for early and late continence in elderly patients.
Conclusion: Our contemporary series shows that there was an increased trend in the proportion of the elderly in overall patients who had undergone RP. Recovery of urinary continence has improved over time in the elderly patients. MUL was a prognostic factor for early and late continence in elderly patients.

UP.229
Prognostic Value of Focal Positive Surgical Margins after Radical Prostatectomy

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Introduction and Objectives: The significance of focal positive margins (FPM) after radical prostatectomy (RP) is unclear. We investigated the prognostic value of FPM in patients with localized prostate cancer after RP.
Materials and Methods: Data from 1,748 consecutive patients diagnosed with localized prostate cancer who underwent radical prostatectomy (RP) between November 2003 and May 2012 were reviewed. Patients were excluded if they received preoperative androgen deprivation therapy or adjuvant radiation therapy, or were not followed up for at least 1 years postoperatively. Finally, 1,360 patients were included in our study. Positive surgical margin (SM) were characterized as FPM (≤3 mm in length) or non-focal positive margin (NFPM) (>3 mm in length). The clinicopathologic features and biochemical recurrence (BCR)-free survival was compared among 3 margin status (negative SM, FPM, NFPM).
Results: Mean age at surgery was 65.6 ± 6.6 years and mean follow-up period was 45.3 ± 22.9 months. Of all patients, 908 patients (66.8%) had negative SM, 73 patients (5.4%) had FPM, and 379 patients (27.9%) had NFPM. Of the 917 patients with pT2 disease, 754 (82.2%) had negative SM, 42 (4.6%) had FPM, and 121 patients (13.2%) had NFPM. The 5-year BCR-free survival for all patients was 87.5%, 84.6%, 60.2% for negative SM, FPM, and NFPM, respectively. The 5-year BCR-free survival for patients with pT2 disease was 89.4%, 84.9, 65.0% for negative SM, FPM, and NFPM, respectively. In multivariate analysis, FPM was not independent predictor of BCR-free survival prognostic factor in all patients and patients with pT2 disease, respectively (p = 0.489, p = 0.337).
Conclusion: There is no significant difference between negative SM group & FPM group after RP in terms of BCR-free survival. A large scale, multicenter, prospective study would be needed to elucidate the exact clinical significance of FPM in patients with prostate cancer after RP.

UP.230
Biochemical Outcomes after Robot-Assisted Radical Prostatectomy in Patients with Follow-up Periods Greater than 5-Years: Initial Report in Asia

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Introduction and Objectives: In this study we assessed biochemical outcomes after robot-assisted radical prostatectomy (RARP).
Materials and Methods: Between July 2005 and November 2007, 176 consecutive patients treated by RARP without neoadjuvant treatment were included in this study. All procedures were performed by a single surgeon and the median follow-up period was 60 months (IQR: 59-69). Biochemical recurrence (BCR) was defined as the detection of serum prostate specific antigen greater than 0.2 ng/mL with a secondary confirmatory increase. Subsequent treatments such as radiotherapy or hormonal therapy were not performed in the adjuvant setting and were delayed until documented biochemical failure.
Results: The median prostate specific antigen was 7.50 ng/ml (IQR: 5.14-11.45) and 39.2% of the patients were classified as intermediate risk and 15.3% were classified as high risk; on final pathological examination, 35.3% of the patients had non-organ confined disease and 37.5% and 14.2% had Gleason scores of 7 and 8-10, respectively. The BCR-free survival rates at 3 and 5 years were 85.6% and 81.2%, respectively. The 5 year BCR-free survival rates stratified by pathologic Gleason scores were 93.1% in Gleason scores of 6 or less, 74.5% in a Gleason score of 7, and 58.1% in Gleason scores of 8 or greater, respectively ($p<0.001$). When stratified by pathologic stage, the BCR-free survival rates were 89.8% in pT2 patients, 66.2% in pT3a patients, and 39.3% in pT3b patients at 5 years following RARP, respectively ($p<0.001$). Preoperative PSA, pathologic stage, postoperative Gleason score, and surgical margin status were independently associated with BCR in multivariate analysis.
Conclusion: In this study, we report biochemical outcomes after RARP with the longest follow-up periods to date in Asian men. We found that robotic surgery provided satisfactory biochemical outcomes, and that RARP is a safe and effective procedure in terms of oncologic outcomes.

UP.231
The Influence of Stretched Urethral Length and Urethral Circumference on Continence Recovery after Radical Prostatectomy
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Introduction and Objectives: To investigate the influence of stretched urethral length (SUL) and urethral circumference (UC) measured during radical prostatectomy (RP) on postoperative continence recovery.
Materials and Methods: Patients with clinically-confined prostate cancer undergoing open RP who gave informed consent were enrolled in this prospective study. In brief, SUL was measured during RP by the following method: after suture-ligation and cutting of the deep dorsal vein complex, a right-angled clamp was passed beneath the exposed urethra, and with a cephalad traction being applied, the distance between the symphysis pubis and the prostatic apex (SUL) was measured with a measuring tape. Then, the measuring tape was passed beneath the urethra and the UC was measured with the urethral catheter out of place. At 1, 3, 6, 9, and 12 months after operation, daily pad use was inquired using a questionnaire. The time to continence (TTC) was defined as the time the patient first became pad-free. A radiologist blind to patients' clinical data measured and recorded the urethral length (MRIL) and the urethral diameter (MRID) on pre-operative MRI scan.
Results: All 27 enrolled patients were followed postoperatively for at least 1 year. Six patients (22.2%) were using a pad at least at 1 year. The mean patient age, SUL and UC were 66.5±6.0 years, 24.2±3.3mm, and 27.5±4.4mm, respectively. MRIL and MRID were 11.3±1.6mm and 10.6±1.9mm, respectively. In the bivariate correlation analysis, there was no statistically significant correlation between SUL and MRIL, and between UC and MRID ($p=0.201$, $p=0.124$). In the Kaplan-Meier curve analysis, cumulative continence rates between the two groups dichotomized at the median value according to age ($p=0.0519$), SUL ($p=0.6583$), UC ($p=0.4031$), MRIL ($p=0.4042$), and MRID ($p=0.8191$) were not significantly different. High SUL-to-MRIL ratio (>2.2) was the only significant predictor of lower cumulative continence rate ($p=0.0457$).
Conclusion: Urethral length measured during surgery did not influence postoperative continence recovery after RP. We observed that an excessively long urethra compared to the urethral length on preoperative MRI is predictive of poorer postoperative continence recovery.

UP.232
High Intensity Focused Ultrasound for the Treatment of Localized Prostate Cancer: Are Its Efficacy and Morbidity Dogmatic?
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Introduction and Objectives: Transrectal High Intensity Focused Ultrasound (HIFU) as a minimally invasive therapy of localized prostate cancer was evaluated concerning its results and side effects.
Materials and Methods: Since 2009, 68 patients with prostate cancer stage T1 and T2 have been treated in our institution with HIFU under general anesthesia using an Ablatherm HIFU device (EDAP SA, Lyon, France). Main patients baseline characteristics were (mean ± SD): age: 74.6 ± 4.6 years, PSA: 7.5 ± 7.8 ng/mL, prostate volume: 19.2 ± 7.4 cc. Gleason scores were 2-4, 5-7 and 8-10 in 8 (11.8%), 58 (85.3%) and 2 (2.9%) patients respectively. During follow-up, prostatic biopsies and PSA level measurements were performed to determine the clinical failure defined as any positive biopsy and the biochemical failure according to the Phoenix ASTRO criteria (PSA + 2 ng/mL). The morbidity was also assessed.
Results: The mean patient follow-up was 22.3 ± 11.0 months. The median PSA nadir was 0.15 ng/mL which was reached 12.6 ± 9.3 weeks after HIFU. The 3-year biochemical survival according to the Stuttgart criteria was 82%. Complications occurred mainly in the first weeks after HIFU and with the first patients treated. They included 33 (13.3%) cases of transient pelvic pain, 19 (7.7%) cases of transient mild urinary incontinence, 4 (1.6%) cases of severe urinary incontinence and 8 (3.3%) cases of bladder neck stenosis. Only one case of rectal fistula was seen but no other major complication was noted.
Conclusion: HIFU appears to be a promising treatment option for localized prostate cancer with a low morbidity rate. Long term efficacy will be determined by further follow-up.

UP.233
Outcomes of Salvage Therapy Using High Intensity Focused Ultrasound for a Localized Prostate Cancer after External Beam Radiotherapy Failure
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Introduction and Objectives: External beam radiotherapy is a curative approach used for localized prostate cancer in

about one third of the cases. But, about 30% of the patients will experience a biochemical or clinical recurrence after radiotherapy. In this study, we evaluate the outcomes of salvage high intensity focused ultrasound (HIFU) therapy for locally recurrent prostate cancer.
Materials and Methods: Since 2008, 35 patients with rising serum PSA after radiation therapy have been treated in our institution. For all of them, there was no evidence of metastasis and the salvage HIFU treatment was performed only for localized histologically proven recurrent prostate cancer. Complication rates and PSA data were recorded and analyzed. Failure was defined as either an increase of 2 ng/mL or more, above the PSA nadir (Phoenix ASTRO consensus), or as androgen deprivation initiation.
Results: Median patient age was 75. Pre-HIFU PSA and Gleason medians were 2.9 ng/mL and 6 respectively. The pre-HIFU stage was ≤ T2a in 31 (89%) and T2b-T2c in 4 (11%). Median follow-up was 36 months (range 3- 60). Nadir PSA was a mean of 1.29 ± 1.8 ng/mL. The cancer specific free survival rate at 3 years was 80%. Post operative complications were low and included transient pelvic pain (17%), transient urinary retention (11%) and urinary incontinence (11%). No case of rectal fistula occurred in our institution. Post operative impotence was 46% for patients who were previously potent.
Conclusion: Salvage HIFU as a minimally invasive therapy offers an attractive alternative after radiation failure for prostate cancer with a low rate of side effects. Short term data seems to be promising but longer follow-up is necessary to verify oncological and functional results.

UP.234
Assessment of Postoperative Quality of Life: Comparative Study between Laparoscopic and Minimum Incision Endoscopic Radical Prostatectomies
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Introduction and Objectives: Minimum incision endoscopic radical prostatectomy (MIE-RP) has been widely employed mainly in Japanese institutions as one of the minimally invasive surgeries for patients with clinically localized prostate cancer. MIE-RP is performed via a single small incision, which just permits extraction of the resected specimen. Laparoscopic radical prostatectomy (LRP) has been the minimal invasive procedure of radical prostatectomy for the last decade before the introduction of robotic-assisted laparoscopic radical prostatectomy. The objective of this study was to investigate the changes in postoperative quality of life (QOL) in patients with prostate cancer who underwent LRP or MIE-RP.
Materials and Methods: This study included a total of 115 consecutive Japanese patients with clinically localized prostate cancer who underwent either LRP or MIE-RP and were subsequently followed for more than 12 months. Before and 12 months after surgery, health-related QOL and disease-specific QOL were assessed using the Medical Outcomes Study 8-item Short-Form Health Survey (SF-8) and the Expanded Prostate Index Composite (EPIC), respectively.
Results: LRP and MIE-RP were performed for 57 and 58 patients, respectively, and there were no significant differences in major clinicopathological parameters between these two groups. There were no significant differences in perioperative outcomes between the two groups except for the estimated blood loss, for which the LRP group was superior. There were no significant differences in the preoperative as well as postoperative all-scale scores of the SF-8 survey between the two groups. Of the fourteen scores evaluated by the EPIC survey, postoperative scores for urinary summary, sexual summary, urinary function, urinary incontinence and sexual function were significantly worse than these pre-operative scores in both LRP and MIE-RP groups, while there were no significant differences in the preoperative as well as postoperative all-scale scores of the EPIC survey between the two groups.
Conclusion: These findings suggest that the postoperative QOL status appears to be equally affected by LRP and MIE-RP; therefore, MIE-RP could be an alternative to LRP as a minimally invasive surgical procedure for localized prostate cancer.

UP.235
Year Nadir-PSA as a Sound Contemporary Prognostic Factor for Low-Dose-Rate Iodine-125 Seeds Brachytherapy
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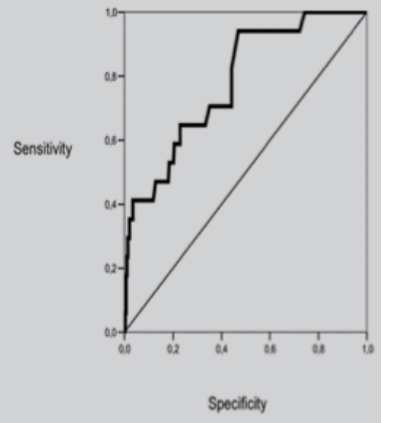
Introduction and Objectives: To identify predictors of outcomes in patients with localized prostate cancer treated with Iodine-125 brachytherapy in a longitudinal uncontrolled study.
Materials and Methods: Between 2000 and 2011, 560 histologically confirmed patients were treated with brachytherapy of whom 305 with ≥ 12 months follow-up and localized tumor were evaluated after exclusion of those locally advanced and under androgen ablation. Receiver Operating Characteristic curves for accurate cut-offs discriminations, uni- and multivariate stepwise logistic regression models as continuous/categorized variables to identify prognostic factors and Kaplan-Meier for biochemical survival were utilized.
Results: The mean age was 63.93 years (44-88); mean pretreatment PSA was 6.34 ng/mL (0.67-33.09); overall median follow-up was 55.35 months (12–138.37). Biochemical recurrence occurred in 17 patients (5.57%) and 288 patients (94.43%) were disease free in the follow-up period. Cancer specific survival was 100% and overall survival 98.03%. Only year nadir-PSA and age were significantly related to biochemical recurrence: to each unit of nadir-PSA the risk increased 87.3% and risk was 4.7 times higher for those under 50 years. Year nadir-PSA ≥ 0.285 significantly discriminated between patients with and without biochemical recurrence (Figure 1). D'Amico's classification failed as prognostic (certainly due to staging and grading imprecisions imputed to biopsy sampling). Complications were weightless and uncomon; no grade 3 or 4 complication was reported and only 31.4% of patients had grade 2 urinary or rectal toxicity.
Conclusion: Half (50.49%) of patients in the scenery of localized prostate cancer treated with Iodine-125 brachytherapy

UP.235, Figure 1.



reach year nadir-PSA < 0.285, recognized as a key independent prognostic factor.

UP.236

Is There Any Difference in Terms of Clinical and Pathological Parameters after the Initial Biopsy or Multiple Biopsy Detected Prostate Cancer?

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Introduction and Objectives: To investigate whether there is any difference in terms of clinical and pathological parameters between prostate cancer detected after the initial biopsy or multiple biopsy.
Materials and Methods: Patients who underwent radical prostatectomy at our clinic between 2007-2011 were reviewed retrospectively. Patients were divided into two groups: initial biopsy and multiple biopsies detected prostate cancer. All the patients underwent TRUS guided 12 core prostate biopsy. Preoperative prostate-specific antigen (PSA), biopsy Gleason score (GS), clinical stage, postoperative pathological stage, prostatectomy gleason score (PGS), positive surgical margin (R1), tumor volume are recorded. The two groups were compared with SPPSS 16.0 whether there is any difference in these parameters.
Results: There are 58 patients in the initial biopsy group, 18 patients in the multiple biopsy group. Between two groups, preoperative serum PSA levels, clinic and pathologic stage, biopsy and prostatectomy Gleason scores were similar with Mann Whitney U test; in terms of tumor volume and positive surgical margins no difference were detected with Ki-kare test (Table 1).
Conclusion: It seems there is no difference in terms of positive surgical margins, clinical and pathological stage, Gleason score, tumor volume and preoperative PSA in patients with prostate cancer detected after first or multiple biopsy.

UP.236, Table 1.

		Initial Biopsy Group	Multipl Biopsy Group
Clinical Stage	T1c	40	16
	T2a	14	0
	T2b	3	2
	T2c	1	0
PSA (ng[ml])		7,29(1,52-22)	6,74(2,12-11,6)
Biopsy Number		1	2,6(2-4)
Biopsy Gleason score	3+3	34	12
	3+4	14	5
	4+3	4	0
	4+4	4	1
	3+5	1	0
	4+5	1	0
Radical Prostatectomy Gleson score	Benign	0	1
	3+3	27	12
	3+4	20	2
	4+3	6	0
	4+4	2	1
	3+5	0	1
	5+3	1	0
	4+5	2	1
Pathological Stage	T2	55	18
	T3a	0	0
	T3b	2	0
	T3c	1	0
	CS	6	2
Tumor volume	<0,5 cc	6	4
	≥0,5 cc	52	17
Surgical Margin Status	Negative	52	16
	Positive	6	2

UP.237

Early Rebiopsy is Not Necessary for Patients Prior Detected Atypical Small Acinar Proliferation (ASAP) at 12 Core TRUS Guided Prostate Biopsy and Candidate for Active Surveillance

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Introduction and Objectives: To review rebiopsy and long-term follow-up results of patients' prior detected atypical small acinar proliferation (ASAP) and investigate whether these patients are candidate for active surveillance.
Materials and Methods: We retrospectively reviewed the TRUS guided at least 12 core prostate biopsy results. We examined age, serum PSA level, digital rectal examination (DRE), rebiopsy and follow-up results and treatments of patients who detected ASAP and investigated whether there is any difference between the patients with tumor and no tumor at rebiopsy.
Results: Between 2007-2012, 926 patients underwent prostate biopsy in our clinic. ASAP was detected in 20 (2.2%) of these patients. The average age of patients was 62 (67-79) years. The mean PSA level is 6.67 ng/ml (1.5 to 23). Three patients had DRE abnormality, while 17 patients had no abnormality. Eighteen patients were detected with ASAP at their first biopsies. In one patient ASAP was detected after one benign biopsy. In another patient ASAP was detected after two benign biopsies. The following 18 core control biopsy results were reported benign for these two patients. Considering the patients with ASAP detected at their first biopsy, 15 of them underwent second biopsy. Among the 15 patients, 9 of them reported as benign, 6 of them reported as prostate adenocarcinoma: 4 one core Gleason score 3+3, 1 two core positive Gleason score 3+3, 1 one core positive Gleason score 4+3. The mean

PSA level of the patients with tumor is 5.43ng/ml (3.7 to 7.41). Except one, all patients with tumor had no DRE abnormality. Four patients with prostate cancer has chosen active surveillance. They are followed for an average of three years. On the control biopsies, except for one patient had no tumor. The biopsy results of the patient who has detected tumor on the control biopsy was similar to his first biopsy. Radical prostatectomy is applied to 1 patient and his pathologic result was pT2, Gleason score 3 +3, tumor volume was less than 1% of the prostate volume. We proposed radical prostatectomy to the patient whose biopsy result was reported as Gleason 4+3 prostate adenocarsinoma.
Conclusion: Although we have limited number of patients, applying late biopsy instead of early does not effect the oncologic outcomes adversly in patients detected ASAP in their first biopsies appropriate for active surveillance.

UP.238
Delayed Definitive Treatment for Active Surveillance versus Immediate Active Treatment with Low Risk Prostate Cancer in Japan
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Introduction and Objectives: In Japan, active surveillance (AS) (via protein-specific antigen (PSA) testing) has recently been studied and performed as a way to avoid adverse events due to the overtreatment of early prostate cancer. On the other hand for low-risk prostate cancer patients, expectant management with delayed definitive treatment after AS is generally used in therapeutic option because the opportunity for cure may be lost. Patients with early prostate cancer who underwent delayed or immediate active treatment were studied clinically.
Materials and Methods: We've recommended AS for 95 patients with low risk prostate cancer, in the 7 years from 2006 to 2013; as a result 64 patients enrolled in AS. This Department's eligibility criteria for AS were: ① T1-T2aN0M0, ② GS<7, ③ PSA<10 ng/ml, ④ 10 or more biopsies and 2 or fewer positive cores, and ⑤ cancer occupying 30% or less of positive cores. Patients who met all of these criteria after providing fully informed consent were entered in this study. All definitive or active treatment included Radical prostatectomy and radiation therapy, excluded Androgen Deprivation Therapy. Overall survival (OS), disease-specific survival (DSS), and the biochemical recurrence-free survival rate (bRFS) were comparatively evaluated between delayed (n=19) and immediate active treatment (n=24).
Results: At 7 years, 64 patients who underwent AS at this hospital had an overall survival rate of 95% and a prostate cancer-specific survival rate of 100% (mean age: 71.63±6.48 years, mean follow-up: 33.63±18.14 months). Patients remained under AS at a rate of 77.05% at 3 years and 71.54% at 5 years. Nineteen patients who received delayed definitive treatment after AS had an OS rate and DSS rate of 100% at 5 years.
Conclusion: Comparison of patients receiving immediate treatment and deferred definitive treatment revealed no significant differences in their bRFS, OS, and DSS. These findings suggest that Delayed definitive treatment after AS for low risk Pca is a useful and safety treatment option in Japan.

UP.239
Are There Many Prostate Cancer Patients Who Are Possible Candidate for Focal Therapy?
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Introduction and Objectives: Recently, focal therapy for early prostate cancer has been proposed and many prospective studies are now ongoing. Expert panels suggested the indication of focal therapy based on imaging studies, PSA levels and pathologic features of biopsy specimens. It may be an attractive method to maintain the QOL of the patients and to avoid overtreatment. However, we do not see many candidates for focal therapy in daily practice. Therefore, we sought to characterize the possible candidates for focal therapy in our population.
Materials and Methods: We retrospectively reviewed 4250 patients who had prostate needle biopsy at Tokyo Medical University from 2001 to 2011. We searched the patients who might have suited for focal therapy based on clinical and pathological information.
Results: A total of 1365 patients (32.1%) had a cancer pathologically: of these, 144 (10%), 345 (25%), and 878 (65%) were categorized into low-, intermediate- and high-risk group based on D'Amico risk classification, respectively. Further, 44 of 144 low-risk patients had a bilateral cancer by a needle biopsy and/or more than 33% of cores were positive. Therefore, 100 (7%) out of 1365 patients/10 years may have a unilateral small-well differentiated cancer that might have been suitable candidate for a focal therapy. However, most of the patients chose definitive treatment approaches: 64 had a radical surgery, 14 had a brachytherapy alone, 6 had a hormonal therapy, 6 were on active surveillance, 4 had an IMRT, 1 had a HIFU, and 5 were unknown.
Conclusion: We found only 100 patients (7%) who were possible candidates for focal therapy during a 10-year study period. Although most of these patients may be suitable candidate for focal therapy, additional criterion may further decrease actual number of patients who are offered focal therapy. The evidence at present is not enough to propose a focal therapy to our patients who prefers a definitive treatment.

UP.240
Early Experience with Robot-assisted Laparoscopic Radical Prostatectomy in a Danish Population
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Introduction and Objectives: Robot-assisted laparoscopic radical prostatectomy (RALP) has emerged as a treatment option for localized prostate cancer. The technique is safe and may have advantages compared to open surgery. We present early complications and operative results of RALP for the first 239 consecutive patients.
Materials and Methods: Between January 2009 and August 2012, 239 patients with clinically localized prostate cancer were planned to undergo RALP. Postoperative complications (<30 days) were recorded according to the Clavien-Dindo classification.
Results: The median follow-up was 1.5 years. The conversion rate to open surgery was 2.9% (7/239). During the study period the duration of surgery decreased significantly from median 4.6 hours in the first quartile to median 3.1 hours in the last three quartiles (P <0.001), and although the blood loss was limited (median 300 ml) it was significantly reduced during the study period (P = 0.02). Patients were easily mobilised and the median hospital stay was 1 day (1-5). The median duration of bladder catheterization was 8 days (6-149). We recorded

70 post-operative complications in 66 (28.4%) of the patients. The majority was minor, however 7.1% (5/70) were Clavien-Dindo grade IIIb and 1 patient had a life threatening complication due to multiple pulmonary emboli. There were no differences in the incidence of complications during the study period when stratified per 20 operations (P = 0.93) or in quartiles (P = 0.55). In total, 24 patients (10.3%) were readmitted for a median duration of 2 days (1-14). Final pathology revealed pT2 disease in 87.9% (204/232) while 11.2% (26/232) had pT3. The most common Gleason pattern was 3+4 (61.6%). Overall the margins positive rate was 29.3%. In the first quartile (58 operations) the margin positive rate was 43.1%, which decreased significantly to 24.7% in the last 3 quartiles (P = 0.008).
Conclusion: RALP is a safe procedure with minimal blood loss. The majority of postoperative complications can be handled conservatively. After a short learning period the margin positive rate stabilised around 25%.

UP.241
Prostate Specific Antigen Follow Up Kinetics in Relation to Pathological Findings in Patients with Negative First Prostate Needle Biopsy
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Introduction and Objectives: Prostate needle biopsies are performed in patients (pts) with either abnormal DRE and/or elevated PSA. Around 70-75% of the biopsies turn out to be negative for cancer. Follow up of these pts is most interesting. This paper addresses PSA kinetics in relation to pathological findings, in particular prostatitis, in pts with negative first prostate needle biopsies and their potential impact on strategy of follow up.
Materials and Methods: A total of 63 pts with negative first prostate needle biopsy were evaluated. PSA at time of biopsy ranged between 2.7-19.8ng/ml. There were 16/63 pts (25%) that had prostatitis, mostly chronic, on pathological examination, while 45/63 pts (71%) had normal prostatic tissue and 2 pts had ASAP. All pts with negative biopsies were asked to come back for DRE and PSA at 6 months. The 2 pts with ASAP were biopsied at 6 months regardless of PSA.
Results: There were 19/61 pts (31%) that had rise in PSA (range 0.1-4.4, median of 0.7ng/m l) on follow up (median 8 months). In 12/19 pts (63%) PSA rise was <0.8ng/ml. Also, 15/19 pts (79%) with PSA rise had normal prostate tissue on biopsy while 4/19 pt (21%) had prostatitis. There were 42/61 pts (69%) that had a drop in their PSA (range 0.1-8.8, median 2.5ng/ml) on follow up (median7 months). Among them all, 30/42pts (71%) with PSA drop had normal prostatic tissue on biopsy while 12/42pts (29%) had prostatitis. Then, 7 pts with significant rise in PSA had re-biopsy, one had cancer. The 2 pts with ASAP had re-biopsy, one had cancer.
Conclusion: Most pts with negative first prostate needle biopsy will have a drop in their PSA on follow up examination. Only a third of the pts with rise in PSA will have significant rise to warrant a re-biopsy. Inflammation, mostly chronic and asymptomatic, shows on 25 % of negative biopsies. The presence of inflammation does not seem to influence the subsequent rise or drop in PSA on follow up of these pts. Whether a course of antibiotics need to be given prior to PSA testing in pts with previous pathologic1al prostatitis needs to be evaluated.

UP.242
PACE4 Plays an Important Role in Prostate Cancer Progression: Alternative Splicing Mechanisms
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Introduction and Objectives: Prostate cancer is the most prevalent cancer in men affecting 1/7. In an attempt to define new pharmacological targets for prostate cancer, we identified PACE4, a member of the proprotein convertases (PCs) enzyme family known to process various cancer related proteins. Given that PACE4 is the only convertase overexpressed in neoplasic prostate tissues, we validated its role through molecular silencing studies and showed its role in tumor proliferation and angiogenesis. However, the molecular mechanisms leading to its upregulation are not known. The identification of regulatory changes associated with cancer progression could result in a gain of translational knowledge for both prognostic and diagnostic aspects of prostate cancer.
Materials and Methods: We collected pairs of tumoral and adjacent non-cancerous tissues (ANCT) from 30 patients undergoing radical prostatectomy and proceeded with RT-qPCR analysis of PACE4 mRNA levels and mRNA alternative splicing analysis. We validated our findings by competitive PCR and performed correlation statistical analyses with clinical parameters (tumor Gleason score and TNM staging).
Results: We first confirmed that the obtained tumor tissues displayed PACE4 overexpression, as we previously reported. PACE4 overexpression levels increased with tumor aggressiveness correlating with increasing Gleason scores (from 5 to 15 fold for Gleason 6 and 8 respectively). Our recent analysis of splice variants identified PACE4 mRNA splicing events in 4th, 17th and the 24th exons leading to novel PACE4 variants that have not been previously been described. These alternative splicing events can lead to alterations in mRNA stability, enzymatic activity and cellular localization, which would significantly affect cancer cell progression.
Conclusion: Taken together these latest data indicate that PACE4 expression levels and splicing events are characteristic hallmarks of prostate cancer that could be exploited as possible prognostic parameters knowing the important role of PACE4 in tumor progression.

UP.243
Anogenital Distance Measurement and its Relation to the Risk of Developing Prostate Cancer
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Introduction and Objectives: Recent studies correlate the anogenital distance (AGD) in adults with male reproductive functions. Shorter anogenital distance predicts poorer semen quality. These studies also suggest that the AGD is determined during gestation and depends on fetal exposure to exogenous androgen or estrogen. The importance of prenatal environmental exposure has also been proposed as a cause of prostate cancer development. Our goal is to measure the AGD in patients with prostate cancer (PCa) and in a control group (C) to assess if a link, such as the one that occurred with semen quality, might exist.
Materials and Methods: We designed a pilot Control-case study and therefore we recruited 10 patients with PCa and another 10 control patients who came to our Center with a PSA less than 3 ng/ml, a normal digital rectal examination and an age of over 50 years. Scrotal and breast

examinations, hair distribution analysis, and BMI testing were done on all patients as well as the measurements of two anogenital distances: from the anus to the posterior base of the scrotum (AGDAS), and to the cephalad insertion of the penis (AGDAP). Measurements were done using a digital caliper and the testicular size was measured with an orquidometer. All measurements were performed by a single urologist.

Results: The PCa patients were, on average, 5 mm shorter in the AGDAS than the C patients, while in the measurement of AGPAP there were no differences. The C group had an average testicular size of 22 milliliters (mls) (17-25) while the average size in the PCa group was 20 mls (11-22, 5). The BMI was similar between the two groups, and in all cases the distribution of hair was normal, no gynecomastia was present and the sizes of the testicles were within normal limits.

Conclusion: The study is limited by the sample, but we identified that the present trend in the PCa group was a shorter distance in the AGDAS. Changes in anogenital distances may predict an increased risk of suffering PCa, but a more comprehensive study should be made to reach a solid conclusion.

UP.244

Prostate Cancer Microparticles for Follow-Up after Radical Prostatectomy

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Introduction and Objectives: Radical Prostatectomy (RP) is a viable option for treatment of localized Prostate Cancer (PCa). The presence of plasma-borne prostate tumor cells fragments (microparticle) is thought to correlate with the magnitude of the tumor burden. The primary objective of this study is to assess wither PCa microparticle (PCMPs) can help in the follow-up of patients after RP.

Materials and Methods: This is a prospective study to measure the PCMPs before and 3 weeks after RP. Ethics Review Board of the institution approved the trial. To identify the PCMPs population by flow cytometry, fluorophore conjugated antibodies specific for the extracellular domain of PSMA (anti-PSMA mouse IgG-RPE) and the metastasis-specific 1A5 antibody (1A5 mouse IgG-FITC) were used to stain 20 uL of plasma. Counting beads (1.0 um) were used to determine the gating parameters for identification and analysis of 1A5+PCMPs. We compared the total number of PSMA-positive events, 1A5+PSMA-positive events and percentage of 1A5+PSMA/total PSMA-positive events before and 3 weeks after RP.

Results: In all, 25 patients were recruited for this study. Twenty-two patients had their blood tested for PCMPs before and after RP. The clinico-pathological features of these patients are summarized in Table 1. Sixteen patients (76.1%) showed decline in the level of PCMPs after RP. The level of PCMPs did not change or increased in 6 patients (23%). Clinical follow-up to determine if these PCa patients are at risk for persistence or recurrence of their disease is currently underway. There was no correlation between the PCMPs change status and clinico-pathological characteristic.

Conclusion: Enumeration of prostate cancer microparticles may provide a clinical means to follow patients after surgical intervention. Larger cohort and longer follow-up are needed to confirm these findings.

UP.244, Table 1.

	All patients (n=22)	Decreased PCMPs (n=16)	Unchanged or increased PCMPs (n=6)
Age (year)	61.48 ± 6.9	60.6 ± 6.4	64.6 ± 7.6
Preop PSA (ng/dl)	6.25 ± 3.47	6.5 ± 3.2	5.5 ± 2.1
Prostate Volume (ml)	48.28 ± 24.9	47.27 ± 26.3	55.1 ± 24.2
Biopsy Gleason			
• 6 • 7 • ≥8	• 11 (50%) • 9 (40.9%) • 2 (9.1%)	• 7 (43.7%) • 7 (43.7%) • 2 (12.5%)	• 4 (66.7%) • 2 (33.3%) • 0
# of positive biopsy	3.04 ± 1.98	3.6 ± 2.1	2.8 ± 1.5
Tumor greatest Dimension (mm)	16.3 ± 8.4	19.29 ± 7.7	14.6 ± 6.7

UP.245

The Efficacy of PCA3 for Predicting Significant Prostate Cancer before Biopsy

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Introduction and Objectives: The relationship between prostate cancer gene 3 (PCA3) and tumor aggressiveness are still inconsistent. In this study, we investigated that PCA3 can be a predictive factor of "significant carcinoma" before biopsy is scheduled.

Materials and Methods: In 43 patients with PSA ≤20 ng/ml received systemic transrectal needle biopsy (12-core), urinary PCA3 score was quantified using GEN-PROBE™ PCA3 assay. Cancer was detected in 27 men, of whom 7 patients were suspected as "insignificant prostate cancer" according to the Prostate Cancer Research International: Active Surveillance (PRIAS) criteria. (Clinical stage T1c/T2; PSA ≤10.0 ng/ml; PSAD <0.2; 1-2 positive prostate biopsies; Gleason score 3+3=6 or more favorable) Receiver operating characteristics (ROC) analysis was used to determine which factors are most predictive of the existence of clinically significant prostate cancer.

Results: The median PCA3 score in patients with non-cancer (NC), insignificant cancer (SC) and significant cancer (SC) were 16.0, 50.0 and 65.0, respectively. PCA 3 score was significantly higher in SC patients than in other patients (p=0.009, Mann-Whitney test). Multivariate logistic regression analysis revealed that PCA3 score was an independent significant factor for predicting overall cancer but for predicting SC. ROC analysis predicting overall cancer revealed PCA3 score had the greatest AUC (0.884) among other PSA-associated markers. However, ROC predicting SC only showed PCA3 score had less AUC (0.754) than other factors such as F/T ratio (0.836), PSAD-TZ (0.833) or PSAD (0.817).

Conclusion: The PCA3 score was strong tool for predicting overall prostate cancer. However, PCA3 score was less effective predictor for predicting "significant cancer" upon PRIAS criteria than other PSA-associated markers. Thus, the PCA3 score had no impact for the prediction of

significant prostate cancers before biopsy is scheduled.

UP.246
Prostate-specific Antigen Kinetics During Coronary Artery Bypass Surgery with or without Extracorporeal Circulation: Does Body Temperature Induce PSA Alterations?
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Introduction and Objectives: To compare the alterations of prostate specific antigen kinetics (PSA), pre, intra and postoperatively, in patients undergoing coronary artery by pass graft surgery (CABG,) with or without extracorporeal circulation.
Materials and Methods: The study involved twenty-three men with a mean age of 65.78 (± 9.19) years, who underwent CABG. In 7 patients (group I), CABG was performed without extracorporeal circulation while in 16 patients (group II) was performed using extracorporeal circulation with a maximum temperature of 31C0. PSA was measured before, during and three days after CABG. Statistical analysis of the differences in median PSA between the two groups was performed using the Friedman test and Wilcoxon rank test.
Results: Preoperatively the median total PSA in group I and II was 0.39 (0.27-0.73) ng / ml and 0.77 (0.46-0.90) ng / ml, respectively. Intraoperatively the median PSA - group I - was 0.36 (0.23-0.69) ng / ml that increased to 2.55 (0.98-5.03) ng / ml at day 3 post - CABG (P = 0.005, p = 0.005). In group II (body temperature at 31 °C) intraoperative PSA was 0.67 (0.33-0.90) ng / ml and it increased to 4.36 (2.70-6.10) ng / ml at day 3 post - CABG (P <0.001, p <0.001). Hence addition of the extracorporeal circulation decreased PSA from 0.77 (0.46-0.90) ng / ml to 0.67 (0.33-0.90) ng / ml in group II (P = 0.008).
Conclusion: The use of extracorporeal circulation in coronary artery revascularization intraoperatively causes a significant decrease in PSA rates followed by postoperative PSA increases. Even though a trend towards increased PSA values was observed in both groups postoperatively PSA exceeded normal values only in group II. Further study is warranted to better delineate this relationship. Its derivates could be useful in biopsy clinical decision-making in order to prevent unnecessary biopsies.

UP.247
Distribution of Free/Total Prostate-Specific Antigen Ratio According to Age and Serum Total Prostate-Specific Antigen levels: Results from a Population-Based Prostate Cancer Screening Cohort in Japan
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Introduction and Objectives: To identify the distribution of free/total prostate-specific antigen ratio (%fPSA) according to total PSA (tPSA) category and age category, we investigated serum tPSA and %fPSA in a population-based cohort in Japan.
Materials and Methods: Between July 2001 and June 2011, 9,480 men aged 40 to 79 years had their serum tPSA and free PSA (fPSA) measured for the first time during a prostate cancer screening for a population-based study in Miyagi Prefecture. The distributions of %fPSA according to age and total PSA level were analyzed.
Results: Within the entire cohort, the median tPSA level was 0.90 ng/mL (interquartile range [IQR], 0.56-1.57 ng/mL) and the median %fPSA was 28.1% (IQR 20.5-37.5 %). When stratified based on tPSA categories 0 to 1.00, 1.01-2.00, 2.01-4.00 and >4.00 ng/mL, the median %fPSA values were 33.3%, 24.7%, 19.4%, and 14.8%. The differences in mean %fPSA among tPSA categories was statistically significant by an analysis of variance (ANOVA) utilizing Tukey's method for pair-wise comparisons (p <0.0001). The median %fPSA stratified based on age categories were 40-49 (29.8%), 50-59 (29.5%), 60-69 (27.4%), and 70-79 (26.5%) years. As the tPSA value and age of the subject increased, the median %fPSA value decreased and the interquartile range narrowed.
Conclusion: This is the largest study ever reported on the distribution of %fPSA values in a population-based cohort. The results show unique characteristics of %fPSA distribution among men with a low tPSA and can guide physicians with reference to %fPSA.

UP.248
Up-regulation of AURKA Expression Mediated by AURKA Gene Amplification Is Not Common in Human Prostate Cancer
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Introduction and Objectives: The Aurora kinase A (AURKA) gene, which encodes a key regulator of mitosis, is frequently amplified and/or overexpressed in cancer cells; however AURKA expression in relation to AURKA gene amplification remains unclear in prostate cancer (PC). We hypothesize that not only gene amplification but also transcriptional regulation of AURKA gene might be associated with aggressive phenotype of clinical PC.
Materials and Methods: Using clinical PC tissues and matched non-cancerous prostate tissues (NP) taken from 242 radical prostatectomy (RP), nucleic acids were extracted. Gene copy number (CN) of AURKA, androgen receptor (AR), c-myc and cyclin D1was measured by a relative quantitation/comparative CT method using RNase P as an internal control, and then gene amplification was determined. Gene expression was analyzed by a quantitative RT-PCR.
Results: AURKA expression was higher in PC than NP tissues (p<0.001), while no significant difference in CN of AURKA was found between PC (2.09 copies) and NP (1.91 copies) tissues. In PC tissues, gene amplification of AURKA was found only in 4 PCs (1.6%), whereas that of AR, c-myc and cyclin D1 was found in 29 (12.0%), 21 (8.7%) and 15 (6.2%) PCs, respectively. Stepwise increase in AURKA expression was found in Gleason score (GS<7; 0.023AU, GS=7; 0.027AU, and GS>7; 0.052AU), while no significant difference in CN of AURKA was found among Gleason scores. Multivariate analysis demonstrated that increased AURKA expression more significantly contributed to PSA recurrence after RP than Gleason score, perineural invasion or preoperative PSA value did (p<0.01). Besides, we identified novel two transcriptional variants within the 5' non-coding region, which harbored up-regulation of AURKA expression (0.17AU and 0.13AU).
Conclusion: Increased AURKA expression as a biomarker in PC tissue is not always through gene amplification. Transcriptional regulation of AURKA expression could open the new window for therapeutic strategy to aggressive phenotype of PC.

UP.249

Anticholinergics Improved Voiding Symptom after Radical Prostatectomy in Patients with Prostate Cancer

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Introduction and Objectives: Changes in bladder function occurring after radical prostatectomy (RP) became a source of urinary bother. We felt that soon after RP anticholinergics might help with not only early recovery of continence but also relief of urinary symptoms. We evaluated whether the anticholinergic medication contributed the early recovery of continence and improvement of voiding symptom after RP.

Materials and Methods: Between March 2011 and September 2011, 80 patients with clinically localized prostate cancer undergoing RP without hormonal therapy or chemotherapy were enrolled prospectively. Urodynamic study and the International Continence Society male short form questionnaires (ICS male SF) were performed preoperatively and 5 months after RP. The patients with incontinence at 1 week after catheter removal were enrolled in this study and were divided into two groups; monotherapy group (α-adrenergic agonist (midodrine only)) and combination therapy group (α-adrenergic agonist + anticholinergics (solifenacin)). One-hour pad test and 3-day frequency volume chart at 1 and 4 months after medication were analyzed. Urinary continence defined as being pad free.

Results: Continence in monotherapy and combination therapy at 1 and 4 months after medication were 51.2%, 41.0%, 70.7% and 71.8%, respectively. At 4 months, maximal detrusor pressure and maximal urethral closure pressure significantly decreased in both groups and maximal cystometric capacity increased significantly in combination group only. Voiding subscale score of ICS male SF was significantly improved in both groups. Incontinence subscale score ($p=0.004$) and quality of life (QoL) subscale score ($p=0.044$) significantly worsened in monotherapy group, while those were not aggravated in combination therapy group. Consequently total score of ICS male SF was not improved in monotherapy group (11.5 vs. 11.9, $p=0.780$), while improved in combination therapy group (13.8 vs. 11.8, $p=0.153$).

Conclusion: Despite no improvement of anticholinergics on the recovery of urinary continence after RP, anticholinergics prevent worsening of incontinence and QoL after RP, which might be attributed to increased cystometric capacity after use of anticholinergics.

UP.250

Preoperative Sphincter Function and Morphology of Prostate Apex Influence Recovery of Urinary Continence after Radical Prostatectomy

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Introduction and Objectives: We evaluated whether the anatomy of prostate apex and preoperative sphincter function influenced the recovery of urinary continence after radical prostatectomy (RP).

Materials and Methods: We analyzed the records of 100 patients undergoing radical prostatectomy (RP) by a single surgeon, respectively. We measured the urethral pressure profile (UPP) including maximal urethral closing pressure (MUCP), functional urethral length (FUL) and area of continent zone (ACZ) 1 week prior to and 4 months after surgery. Membranous urethral length (MUL), prostate volume, shape of the prostate apex and prostatic urethral angle were assessed on preoperative magnetic resonance imaging (MRI) of prostate. Continence defined as being pad free and was assessed at 4 months postoperatively. We analyzed the variables associated with the recovery of continence using binary logistic regression. Accuracy of variables predicting urinary continence at 4 months after RP was tested using receiver operator characteristics curves.

Results: Continence rate at 4 months was 60%. On univariate analysis, longer preoperative MUL ($p<0.001$), anterior protrusion of prostatic apex ($p<0.001$) and larger preoperative ACZ ($p=0.022$) were associated with postoperative recovery of continence at 4 months. On multivariate analysis, MUL (OR=1.58, $p=0.002$), anterior protrusion of prostatic apex (OR=0.09, $p<0.001$) and postoperative MUCP (OR=1.12, $p=0.001$) were independent predictors for recovery of continence at 4 months. In patients with anterior protrusion of prostatic apex, there was more prominent reduction in MUCP at 4 months after RP compared to those without anterior protrusion of prostatic apex (24.4 cmH2O vs. 14.2 cmH2O, $p=0.042$). Addition of prostate apex shape on MRI slightly increased the predictive accuracy of a base model including age, BMI, UPP variables, prostate volume and MUL from 0.785 to 0.826 ($p=0.329$).

Conclusion: These results suggest that accurate dissection of the prostatic apex for the maximum preservation of MUL is recommended during RP especially for the patients with short preoperative MUL or those with protruded anterior portion of prostatic apex.

UP.251

Clinical Presentation of Prostate Cancer in Kenya in the 21st Century: From Kenya's Largest Referral Hospital

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Introduction and Objectives: The incidence of prostate cancer in Kenya has increased by 75% from the last decade with over 2000 new diagnoses annually, making it only second to esophageal cancer. The stage at presentation and histological grade of the tumor are important in prognosis although this information is limited in the Kenyan population. We aimed to investigate the clinical presentation and pathologic grades of prostate cancer in a Kenyan population.

Materials and Methods: A total of 51 patients with tissue diagnosis of prostate cancer were reviewed from January 2012 to December 2012. The presenting symptoms, PSA, radiological findings, stage of the disease at presentation, Gleason's score, D'Amico and Capra score were recorded/calculated.

Results: There were 31 patients (60.8%) presented with metastatic disease based on their symptoms, PSA levels and radiological findings (Table 1).

In addition, four patients had apparent radiological findings of lumbosacral metastasis and osteopenia of the hip, three had pleuro-pulmonary metastasis while three had positive abdominal CT scan showing retroperitoneal nodal metastasis. The PSA ranged from 27 to 4,079 ng/ml (average= 555 ng/ml). It was ≥35 ng/ml in over 90% of cases. The Gleason's score ranged from 6 to10 (average= 8.5). In 86% of cases it was ≥8. According to D'Amico's classification, 28 patients (55%) presented with high risk disease (PSA ≥ 20 ng/ml, Gleason ≥ 8 and stage ≥ T2c). The Capra score ranged from 7-9 with a mean of 8.64.

Conclusion: Over 60% of patients in the sampled population presented with

UP.251, Clinical presentation of prostate cancer in Kenya

Clinical presentation	Number of patients	Percentage (%)
Frequency, hesitancy, nocturia	47	92.2
Obstructive uropathy with renal insufficiency	19	37.3
Hematuria	12	23.5
Lower limb swelling	12	23.5
Anemia	12	23.5
Dyspnea with pulmonary metastasis	10	19.6
Chronic renal failure	7	13.7
Backache	23	45.1
Neurological symptoms	8	15.7

advanced disease, poorly differentiated tumors and very high Capra scores, probably more than any African report. This may have dismal outcome on quality of life and prognosis. Further research on the tumor biology and survival rates are urgently needed in this region.

UP.252

Predictive Value of Metabolic Syndrome in Gleason Score and Pathological Stage in Radical Prostatectomy Specimens

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Introduction and Objectives: In the last few decades the prevalence of metabolic syndrome (MS) has increased. Some studies have demonstrated an association between MS and high-grade prostate cancer (HGPC), a close relation. The objective is to evaluate the MS variable as a predictor of tumor stage and Gleason score in radical prostatectomies piece.

Materials and Methods: We present a retrospective review of 517 radical prostatectomies performed between 2007 and 2012. Chi2 has been used for the analysis of qualitative variables, Student t for quantitative ones. Logistic regression has been used to evaluate the behavior of the predictor variables in the stage and Gleason grade in the specimens

Results: The mean age of patients with MS was 64.1 + / -9 years. No differences were found in age, PSA at diagnosis (PSAd) and size of the piece between patients with and without MS. Patients with MS showed more aggressive Gleason and stage in the piece: p = 0.03 OR = 1.6 (1.03-2.6), p <0.001 OR: 2.6 (1.68-4.26) respectively. PSAd, clinical stage at diagnosis (CSD), biopsy Gleason (BG) and MS were statistically significant in univariate analysis for both the Gleason as for stage of the piece. In multivariate analysis, the variables shown in Tables 1 and 2 below behaved as independent prognostic factors for stage > T1c or Gleason ≥ 7.

Conclusion: The MS is a predictive variable for more aggressive Gleason and stage of the piece in both models (univariate and multivariate).

UP.252, Table 1. Multivariate stage of the piece.

	p	OR	CI 95%
MS (YES/NO)	0.04	1.6	1.01-2.5
PSAd (>10 / ≤10/)	0.01	1.04	1.01-1.08
CSD (<T1c/ ≥T1c)	0.03	1.4	1.05-2.5

UP.252, Table 2. Multivariate Score Gleason.

	p	OR	CI 95%
MS (YES/NO)	<0.001	2.7	1.6-4.6
CSD (<T1c/ ≥T1c)	0.001	2.1	1.3-3.4
BG (≥7/ ≤6)	<0.001	8.6	4.6-16.2

UP.253

10-Year Survival and Change of Diagnosis and Treatment in Prostate Cancer Patients, a Single Institution Experience in Shanghai China

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Introduction and Objectives: We report on 10-year survival outcomes after various treatment and change of their diagnosis and treatment in a single centre series of prostate cancer patients in Shanghai China.

Materials and Methods: Between 2003 and 2012, 1673 consecutive prostate cancer patients underwent various treatments at Zhongshan Hospital Fudan University in Shanghai China. Kaplan-Meier 5-year probabilities of overall survival for all patients, TNM stage IV patients, localized patients and patients after radical prostatectomy were determined. Patients were divided into 2 groups by year 2003-2007 and year 2008-2012, and then the changes of disease status at diagnosis and treatment were compared.

Results: The 5-year overall survivals for all patients, TNM stage IV patients, localized patients and patients after radical prostatectomy were 78.89%, 58.45%, 87.93% and 91.93%, respectively. Specific change of disease status at diagnosis and treatment were listed in Table 1. Among all patients, 1013 cases had imaging materials for clinical TNM staging and 1455 cases had a definite Gleason score by biopsy. Approaches for radical prostatectomy included open, laparoscopic and robotic assisted laparoscopic procedures, among which the robotic one was developed from middle 2009 in our hospital.

Conclusion: Patients of latter 5 years had a younger age, more localized lesions and received more radical prostatectomy. Advances of surgical technique, e.g. Da Vinci Surgical system, will continue to benefit patients.

UP.254

PSA/T Ratio Is a Prognostic Factor to Predict PSA Recurrence in Prostate Cancer Treated with Intermittent Androgen Suppression (IAS)

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UP.253, Table1. Change of Disease Status at Diagnosis and Treatment.

	Year 2003-2007 N=542	Year 2008-2012 N=1131	
Age at diagnosis (year)	71.92±7.79	70.78±7.98	p<0.05
Initial PSA (ng/mL)	135±334.51	149±735.25	p>0.05
cTNM stage (AJCC, 2002)			p<0.001
Stage II	112	390	
Stage III	11	38	
Stage IV	156	306	
Gleason Score			p<0.05
>7	180	482	
=7	127	330	
<7	121	215	
Treatment			p<0.0001
Radical Prostatectomy*	77	381	
I125 brachytherapy	17	69	
Hormonal therapy combined or not combined with Radiation/High Intensity Focused Ultrasound	448	681	

*Radical prostatectomy included open, laparoscopic and robotic assisted laparoscopic procedures.

Introduction and Objectives: Intermittent androgen suppression (IAS) therapy is used as alternative to continuous lifelong androgen deprivation therapy for prostate cancer (PCa) patients, especially for patients with comorbidity or for aged patients. It is difficult to predict PSA recurrence during IAS. Our objective is to determine if the PSA/ testosterone (T) ratio would be a useful marker to predict PSA recurrence during IAS.
Materials and Methods: This is a retrospective study included 67 naïve PCa patients who were treated with IAS between 1997 and 2012. IAS comprised 10-15 month treatment cycles beginning with luteinizing hormone–releasing hormone agonist (LHRHa) injections with a nonsteroidal anti-androgen. Non-treatment intervals followed treatment cycles if there was no evidence of clinical disease progression and PSA level was < 4 ng/mL. Serum T and PSA levels were monitored every 3 months during off treatment period. PSA/T ratio was calculated as the ratio of PSA levels to the T levels when PSA reached to 4.0 ng/ml. Biochemical recurrence was determined based on the ASTRO (Phoenix) consensus definition.
Results: Fifty patients were treated with IAS more than 2 treatment cycles. Median PSA and T levels were 16.7 and 4.7 ng/mL before treatment. Median age was 74 years old. Median follow up was 72.1 months. Serum testosterone recovery (T>2.5 ng/mL) occurred in 78%, 87%, 66%, and 50% till the end of off treatment period of 1st, 2nd, 3rd, 4th cycles, respectively. Total 7 patients revealed PSA recurrence, 4 during 2nd cycle, one each in 3rd, 4th, and 5th cycles. PSA/T ratio was 5.51 (5.2/1.5) in PSA recurrent group and 1.88 (4.4/3.5) in no-recurrent group (p<0.0001). PSA progression-free survival was 97% and 95% at 5 and 10 years in patients with PSA/T ratio <3.0, while 50% in patients with PSA/T ratio ≥3.0.
Conclusion: PSA/T ratio is significantly lower in PSA recurrent group compared to non-recurrent group. PSA/T ratio is a significant prognostic factor to predict PSA recurrence during IAS treatment. If PSA/T is lower than 3.0, we have to carefully follow the patients.

UP.255
The Validation of J-CAPRA Risk Assessment for Prostatic Cancer in Our Cancer Registry
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Introduction and Objectives: The Japan Cancer of the Prostate Risk Assessment (J-CAPRA) score was developed to assess the risk of disease progression among prostate cancer patients receiving primary androgen deprivation therapy (PADT) at the time of diagnosis by using the Japan Study Group of Prostate Cancer (J-CaP) database and the Cancer of the Prostate Strategic Urologic Research Endeavor (CaPSURE) registry. We validated the J-CAPRA score in our prostate cancer registry.
Materials and Methods: We have diagnosed and treated 355 prostate cancer patients between 1995 and 2011, who underwent primary radical prostatectomy (OP), radiation therapy (RT), PADT or watchful waiting (WW). Multiple logistic regression analysis was used to assess progression risk on the basis of clinical data available at diagnosis, prostate-specific antigen level (PSA), Gleason score (GS), clinical tumor stage (STAGE), the age at diagnosis (AGE), primary treatment and/or the J-CAPRA score.
Results: Primary treatment (p<0.001), STAGE (p<0.001), GS (p<0.001) and J-CAPRA score (p<0.001) were factors associated with disease progression. Statistical significance was found in PADT vs OP (p<0.001, odds ratio 15.655), WW vs OP (p<0.001, odds ratio 88.09), GS 7 vs GS≦6 (p=0.008, odds ratio 4.746), GS≧8 vs GS≦6 (p<0.001, odds ratio 9.464), STAGE D vs B (P<0.001, odds ratio 11.032), J-CAPRA intermediate risk vs low risk (p<0.001) and high risk vs low risk (p<0.001, odds ratio 36.807). AGE was not a factor associated with disease progression. The model with primary treatment, STAGE and GS was fitter for the risk assessment than the model with primary treatment and J-CAPRA score.
Conclusion: J-CAPRA score was applicable not only for PADT patients but all patients. The risk assessment with primary treatment, STAGE and GS was more suitable than with primary treatment and J-CAPRA score in our cases.

UP.256
Testosterone and Key Aspects of Physical and Emotional Health in Untreated Hypogonadal Men: Baseline Findings from the Registry of Hypogonadism in Men (RHYME)
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Introduction and Objectives: Hypogonadism (HG) is a common disorder in

aging men with an impact on physical health, sexual function and quality of life. We examined the prevalence of physical and mental health indicators, and their relationship to endogenous T levels in a large, multi-national cohort of well-characterized hypogonadal men.
Materials and Methods: RHYME is a multi-center registry of 999 men with clinically-diagnosed HG (naïve to androgen treatment) from 25 sites in 6 European countries (DE/ES/IT/NL/SE/UK). Symptoms were assessed by patient questionnaire, serum T by mass spectrometry, and comorbidities/medications by medical record review.
Results: Mean age, T, and PSA were 59y, 9.5+/-1.6nmol/L and 0.73+/-2.8ng/mL. There were significant differences in T by country (range: UK, 9.9nmol/L; DE, 11.8nmol/L). High rates of sexual dysfunction, male aging symptoms, obesity, high blood pressure (BP), hypercholesterolemia, and diabetes were observed. Prevalence of lower urinary tract symptoms (LUTS) and PSA all increased with age (all $p<.001$), whereas T decreased non-significantly with age ($p=.06$). Mean PSA levels were higher ($p<.001$) in men with (0.87ng/mL) vs. without (0.67ng/mL) LUTS. In unadjusted or adjusted models, LUTS were not associated with T levels. In contrast, higher PSA levels were associated ($p<.001$) with higher T in a multivariable model. Those with complaints of low sexual desire had lower mean T than those without (9.3 vs 10.0 nmol/L; $p=0.03$), whereas PDE-5 inhibitor users had higher T levels than non-users (11.0 vs 9.1nmol/L, $p<0.0001$)). An association was observed between Aging Male Symptom scores and T adjusted for age ($p=0.01$), which was not significant in multivariable analyses ($p=0.38$). T levels were significantly correlated with BMI ($r=-0.23$) and waist ($r=-0.20$) but not BP. Mean T levels were unrelated to other cardiometabolic factors in unadjusted or adjusted analyses, though more men with lower T were taking anti-hypertensives and lipid-lowering agents.
Conclusion: Prevalence of LUTS, PSA elevations, obesity, and sexual dysfunction are relatively high in this multi-national cohort of untreated hypogonadal men. Differences in endogenous T levels among these men are associated with body composition, use of antihypertensive medications, sexual activity and PSA levels in these men, but not with symptoms of LUTS or cardiometabolic factors.

UP.257
The Dual Insertion of Artificial Sphincter and Penile Prosthesis after Radical Prostatectomy
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Introduction and Objectives: After radical prostatectomy, incontinence is common complication, and urinary artificial sphincter is currently the gold standard treatment. Erectile dysfunction is also common complication. We tried artificial sphincter insertion and penile prosthesis at same time for patient with incontinence and erectile dysfunction after prostatectomy.
Materials and Methods: From March 2007 to October 2012, 5 patients with post-prostatectomy incontinence and erectile dysfunction were enrolled on this study. Those patients had severe incontinence; they used more than 2 pads per day 1 year after prostatectomy. Also all of them lost their erectile function. We performed sphincter placement after 12 months. Monthly follow-up visits were done. After 3 months, we assessed recovery as the number of pads needed per day and checked patient's satisfaction. Questionnaire was conducted to determine patient's satisfaction.
Results: There was no significant complication in all patients, except one patient had to remove implant due to infection and reinsert after 6 months. The mean postoperative pads daily was 0.6 and mean quality of life index 1. All patients reported satisfaction with the artificial urinary sphincter. All patients reported satisfaction with penile prosthesis and it was working well. There was no significant problem with both artificial materials working together. A total of 80% of patients stated that they would recommend or had recommended the artificial urinary sphincter and penile prosthesis to the other patients.
Conclusion: The satisfaction of dual insertion of artificial urinary sphincter and penile prosthesis is uniformly high. Both artificial materials work smoothly. Only problem is its high cost. So think about dual insertion of artificial urinary sphincter and penile prosthesis for the patients who has severe incontinence and erectile dysfunction. It brings good outcome and high satisfaction of the patients.

UP.258
Efficiency and Morbidity of Transurethral Resection of the Prostate in Patients with Urinary Retention and Prostate Cancer
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Introduction and Objectives: To evaluate the efficiency and morbidity of transurethral resection of the prostate (TURP) in patients with urinary retention and prostate cancer.
Materials and Methods: From 2005 to 2011, 24 patients with infravesical obstruction secondary due to prostate cancer were treated with TURP and orchidectomy. These men were unlikely to undergo definitive primary treatment. Fourteen patients underwent TURP and bilateral orchidectomy at the same time; 6 patients underwent TURP after initial orchidectomy, and 4 patients underwent orchidectomy after initial TURP.
Results: Patients' mean age was 72 years. The mean PSA level before interventions was 14.8 ng/Dl (range 3.4-153), while after interventions it was 3.3 ng/Dl (range 0.02-70). The mean prostate volume was 45 cm^3 (range 32-90cm^3) and the average weight of resected tissue ranged from 20 to 70 gms (mean 28 gms). Of patients, 83.4% had low and intermediate grade cancer and 16.6% of the patients had high-grade cancer. The median postoperative follow-up period was 28 months (range 6-60 months). During this time, 75% of the patients showed normal post-TURP maturation. In two patients, with biopsy-proven PCa, it was not detected prostate cancer (PCa) in the TUR P specimen. Patients with high-grade tumors, hormone refractory disease and patient age under 60 years appear to be related to poor outcome following TURP.
Conclusion: TURP associated with bilateral subcapsular orchidectomy is an effective treatment with a relatively low morbidity and offers available option for patients with symptomatic urethral obstruction due to prostate cancer.

UP.259
Is Use of Statin Associated with Better Histopathologic Parameters in Men with Biopsy Proven Cancer? A Retrospective Matched Controlled Anaylsis
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Introduction and Objectives: The objective of this study is to determine whether a preoperative use of HMG-CoA inhibitors (statin) has an influence on tumor aggressiveness in men with diagnosed prostate cancer. We examine, in our patient population, the relationship between a preoperative administration of HMG-CoA inhibitors (statin) and the final histology after a radical prostatectomy regarding tumor size and Gleason grading.
Materials and Methods: In a retrospective review, we identified all patients who presented with a prostate cancer at our institution to a radical prostatectomy and who had taken statin preoperatively. We evaluated a subgroup of 252 patients with prostate cancer. Forty of these 252 patients took statin preoperatively. As part of our study we compared these 40 patients who took preoperatively statin with the rest of the 212 who did not, in terms of age, BMI, PSA, C-reactive protein, intraoperative blood loss, Gleason-score and upgrading/downgrading on the final pathology.
Results: Overall, median serum prostate specific antigen was slightly higher in patients on preoperative statin medications 6, 52 ng/ml, compared to the PSA value in the control group 6, 11ng/ml. The median intraoperative blood loss was 300 ml in both groups also in the serum levels of C-reactive protein was 1.5 mg / L in both groups equal. Comparing the preoperative Gleason-score, the biopsy and the Gleason-score on the final pathology we observe a downgrading in 6/40 (15%) patients and a upgrading on 13/40 (32.5%) patients on the statin group. The control group showed a downgrading only in 12, 7% patients and a upgrading in 83/212 (39.1%) patients.
Conclusion: The present study suggests that those patients with prostate cancer who took statin before the surgery have a better Gleason-Score and thus that this medication may have an influence on the biological aggressiveness of the prostate cancer.

UP.260
Correlation of PSAD with Gleason Score from Prostate Biopsy
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Introduction and Objectives: PSA density (PSAD) is calculated as ratio of Total PSA/USS volume of prostate. The objective of our study is to establish the PSAD of both benign and malignant prostate diseases from our audit series and correlate to their Gleason scores.
Materials and Methods: Total number of patients in study was 128: BPH (50), prostate inflammation (4), Gleason 6 (26), Gleason 3+4=7a (16), Gleason 4+3=7b (11), Gleason 8 to 10 (14), ASAP (4) and HG PIN (3).Tables and bar charts were made. Computer aided test for significance was made to ascertain the significance of the means using two tail student t test.
Results: The mean PSAD for BPH =0.157, prostate inflammation= 0.395, ASAP=0.06, HG PIN=0.247, Gleason 6=0.24, Gleason 3+4=0.41, Gleason 4+3=0.53 and Gleason 8 to 10=3.44. There is significance difference between mean PSADs of BPH vs. inflammation, BPH vs. all types of prostate cancer histology and between different types of cancer histology. But there is no significant difference between Gleason 3+4 vs. Gleason 4+3, Gleason 6 vs. prostate inflammation as well as between BPH, prostate inflammation vs. premalignant histology (although their number is small).
Conclusion: PSAD is an easily computed PSA based parameter. PSAD could aid in decision making about biopsy & re biopsy, precision in diagnosis and prognosis of prostate cancer. PSAD also suffers from the low specificity of PSA especially in situations like prostatic inflammation. Thus, a PSAD above 0.3 points to a probable Gleason 7 and warrants serious discussion about biopsy or re biopsy after excluding infection. A PSAD tending towards 1 or above usually indicates high probability of Gleason 8 to 10. This has great significance in prognostication.

UP.261
Stage Variation of Prostate Cancer between MRI Diagnosis and Pathological Diagnosis
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Introduction and Objectives: We analyze the variation of clinical stage to pathological stage in patients, who had prostate cancer and received radical prostatectomy. We also analyze the predictors that may cause these variations.
Materials and Methods: Between January 2007 and March 2012, there were 538 patients with prostate cancer, who underwent retropubic radical prostatectomy (RRP), laparoscopic radical prostatectomy (LRP), and robot-assisted laparoscopic radical prostatectomy (RALP). Clinical stages were recorded by digital rectal examination (DRE) and MRI study, respectively. Patients were included only when the MRI diagnosis was reported in the radiology department of this institute. Patients with incomplete pre-operative characteristics and operative parameters were excluded. We analyze the stage variation of DRE and MRI study to final pathological diagnosis of whole mount prostate specimens.
Results: There were 258 cases of prostate cancer included in this study in the 5-year follow-up. Surgical intervention included RRP (n = 56), LRP (n = 62), and RALP (n = 140). Comparison of clinical stage by DRE to pathological diagnosis, DRE overestimates in 3 cases (1.16%), but underestimates in 181 (70.1%) cases and 74 cases (28.7%) were in accurate stage. As to clinical stage by MRI study, MRI overestimates in 49 cases (19.0%), but underestimates in 73 cases (28.3%). Finally, 136 cases (52.7%) were in accurate stage. With the Gleason's sum of 5 to 6, the possibility of stage upgrading is less than 30%, whatever the PSA level is. But with the higher PSA level, there is higher risk of stage upgrading. With the Gleason's sum of 7, and 8 to 10, the possibilities of stage upgrading are more than 50% when PSA level is higher than 20 ng/mL. Also, with the higher PSA level, there is higher risk of stage upgrading in these two groups.
Conclusion: The accuracy of clinical stage varies from different modalities of survey. However, clinical stage may influence the strategy of treatment in prostate cancer. To know the accuracy of different modalities of survey, and to know more predictors that make the result more accurate, are the keys for patient's benefits.

UP.262
Results of Applying Modified Gleason Scoring to a Series of Patients Previously Evaluated with Conventional Gleason Scoring
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Introduction and Objectives: The 2005 International Society of Urologic Pathology (ISUP) Gleason Grading Consensus is the current standard for grading adenocarcinoma of the prostate on core biopsy samples and operative specimens. The Modified Gleason score (MGS) system, which involves the summation of the most dominant and the highest Gleason grade component (regardless of the extension) is the single strongest prognostic factor for the clinical behavior and treatment response of prostate cancer. The objective of this study was to compare the approximation of the Conventional Gleason score (CGS) and the Modified Gleason score (MGS) to each other and with the final score of radical prostatectomy specimens and to assess the usefulness of the new score in identifying the factors associated with a poor prognosis in the operative specimen.
Materials and Methods: We reevaluated prostate needle biopsy specimens according to the MGS criteria of all patients who were subsequently treated using radical prostatectomy. We calculated the rate of change for the prognostic group. We calculated the proportion of pT3, positive margins and vascular and perineural infiltration in patients in the prognostic group whose score changed using the MGS and compared these results with the same parameters in the patients who presented no change.
Results: A total of 212 prostate biopsies were performed, and 99 of these biopsies were positive. In addition, 40 radical prostatectomies were performed. In 70% of the cases, the two scores matched, but in 30% of the patients, the prognosis was changed to a worse one. The agreement between the scoring of the biopsy samples and prostatectomy specimens was 45% for both scores but not in the same patients. In patients who had worsened prognoses after application of the MGS, the proportion of pT3 was 41.6%; positive margin, 41.6%; lymphovascular infiltration, 50%; and perineural infiltration, 58.3%. These values were 21.4%, 17.8%, 17.8% and 21.4% among the patients presenting no change, respectively.
Conclusion: The MGS presented improved prognostic value compared with the CGS, after taking into account the unfavorable factors that appeared in the prostatectomy specimens of the patients whose prognostic group was changed by application of the MGS.

UP.263

Dynamic Contrast-Enhanced Magnetic Resonance Imaging (DCE-MRI) for Patients with Early Prostate Cancer during Active Surveillance or Watchful Waiting

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Introduction and Objectives: We examined the utility of dynamic contrast-enhanced magnetic resonance imaging (DCE-MRI) for risk assessment and follow-up in early prostate cancer (Cap) patients managed with watchful observation.
Materials and Methods: cT1c to cT2a Cap in 77 men between 53 and 85 years old (mean 72.6) was examined by sequential DCE-MRI during active surveillance. The cohort comprised 51 good-, 16 intermediate- and 4 poor-risk patients.
Results: Forty-eight patients (62.3%) remained on active surveillance with a mean follow-up period of 26.8 months. The PSA levels at diagnosis ranged between 1.7 and 24.0 (mean 7.7) ng/ml, and those following observation were 0.89–36.5 (mean 10.9) ng/ml. At diagnosis, DCE-MRI identified Cap in 18 of 51 patients (35.3%) with good-risk, 14 of the 16 (87.5%) with intermediate, and all of the 4 with poor-risk disease ($P < 0.01$). There were no patients whose initially invisible Cap became visible with DCE-MRI during observation. Of the 36 patients with initially visible Cap, 31 had no significant change on DCE-MRI during the observation period (mean 22.7 months). The remaining 5 patients with visible Cap had progression on imaging, and all of them had intermediate- to poor-risk disease ($P < 0.05$). Fourteen of 77 patients (18.2%) experienced reduction of PSA levels at the end of the observation compared with those at diagnosis, but none of the 36 patients with visible cancer had a reduction of the PSA level ($P < 0.01$). The PSA-doubling time (PSADT) of the 5 patients with disease progression on imaging was shorter than that of patients without progression (16.2 months versus 48.7 years, $P < 0.05$).
Conclusion: DCE-MRI was suggested to be useful for risk assessment in Cap patients managed with watchful observation. Regarding its usefulness as a follow-up modality, further observation is warranted.

UP.264

Comparison of Three Nomograms on Clinically Insignificant Prostate Cancer: A Validation Study

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Introduction and Objectives: Recently several nomograms for preoperative diagnosis on clinically insignificant prostate cancer (CiPCa) have been developed. We conducted to evaluate external validation of most popular three nomograms for CiPCa with our patient cohort.
Materials and Methods: There were 264 patients who underwent open and robot-assisted radical prostatectomies by a single surgeon from our prostate cancer cohort between Jan 2011 and March, 2012 enrolled in our validation study. Men with complete data on clinical and pathological stage, preoperative serum PSA level, total cancer volume, Gleason score (GS) on biopsy and prostatectomy specimen were recruited. Insignificant tumors were defined as tumors with a total tumor volume in each specimen of less than 0.5 mL with organ confined disease and a histologic Gleason score of less than 7. Validation was performed to be quantified with receiver operating characteristic (ROC) analysis.
Results: Histopathologic evaluation of prostatectomy specimens revealed insignificant tumor in 50 (18.94%) of 264 patients. The calculated area under the ROC curve (AUC) were 0.831 ($p<0.001$), 0.819 ($p<0.001$) and 0.746 ($p<0.001$) using nomograms by Nakanishi et al., Chun et al. and Chung et al., respectively. The difference between areas by pairwise test among three nomograms revealed 0.0117 (Nakanish vs. Chun; $p=0.663$), 0.0845 (Nakanish vs. Chung; $p=0.028$), 0.0728 (Chun vs. Chung; $0=0.057$), respectively. In multivariate logistic regression models, PSA, prostate volume and GS showed significant correlation with CiPCa. Predicted values from logistic regression models showed a significant differences as compared with previous three nomograms 0.0643 (Nakanishi; $p=0.014$), 0.0760 (Chun; $p=0.007$), 0.149 (Chung; $p<0.001$).
Conclusion: AUC from previous three nomograms for CiPCa showed significantly lower AUC than predicted values from logistic regression models in our patient cohort. New nomogram for CiPCa in Asian is needed for the precise prediction for CiPCa.

UP.265

CellSearch EpCAM+ CK+ Subclasses Are not Prognostic for Advanced Prostate Cancer Status

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Introduction and Objectives: The presence of circulating tumor cells (CTCs) in patient blood represents the onset of metastatic disease in prostate cancer disease progression. Its enumeration by the CellSearch Instrument offers a prognostic means of assessing disease progression but CTC criteria is rigorous and does not include dead CTCs or fragments of CTCs. Previous studies show that there are low CTC counts in localized prostate cancer (PCa) patients whereas various forms of dead circulating tumor cells are abundant in patient plasmas and could offer prognostic information. We expand the CellSearch criteria for CTCs and enumerate several subclasses of EpCAM+ and CK+ events, ranging from intact dead cells to micron-sized cell fragments. We hypothesize that EpCAM+ CK+ microparticle events are prognostic for localized and metastatic PCa patients and correlate with other clinical markers such as prostate specific antigen.

Materials and Methods: Patients were recruited into two different cohorts; localized PCa and metastatic PCa (N= 18, 21 respectively). Blood was collected into CellSearch vacutainers and analyzed by the CellSearch instrument. Several different EpCAM+ CK+ DAPI± CD45- event subclasses were enumerated for all patients. Operator bias was eliminated during blinded enumeration of subclasses by randomizing all samples prior to analysis.

Results: There was no difference in all CellSearch subclasses between localized and metastatic PCa patients. However, when correlated to PSA, the small and large tumor cell fragment subclasses in the localized PCa patient cohort were the only subclasses to positively correlate with PSA (N=18, R=0.677, 0.792 respectively) whereas all other subclasses did not correlate with PSA.

Conclusion: No significant differences in CellSearch EpCAM+ CK+ event subclasses between localized and metastatic PCa patients was observed. Hence, the clinical utility of CellSearch in predicting survival rates between metastatic and localized cancer patients is questionable.

UP.266

Core Biopsy Length Impacts Gleason Upgrading on Radical Prostatectomy

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Introduction and Objectives: The impact of biopsy core length on Gleason Upgrading on radical prostatectomy is an undervalued topic. We assessed the role of biopsy core length in prostate biopsy undergrading.

Materials and Methods: We retrospectively analyzed the records of 178 prostate cancer patients who underwent transrectal ultrasound guided initial prostate biopsy with 12 cores and subsequent radical prostatectomy. Core length was compared between those with vs without cancer in the same patient and between those with and without Gleason Upgrading on radical prostatectomy.

Results: Gleason Upgrading on radical prostatectomy occurred in 45% of cases. In the multivariate analysis the core biopsy length was selected as being significantly associated with Gleason Upgrading. Every 1 additional mm of core biopsy length decreases the risk in 89.9%. The smaller the fragment size, the greater the chance of worsening Gleason scores in the surgical specimen. The mean length of positive cores was 11.33 (SD 3.42) and mean length of negative cores was 10.83 (SD 3.68). This difference was significant with p = 0.043. The mean length of each fragment was 1.16 mm in those with vs. 1.35 in those without Gleason Upgrading on radical prostatectomy.

Conclusion: Core biopsy length impacts Gleason Upgrading on radical prostatectomy as well as tumor classification as multifocal.

UP.267

Magnetic Resonance Imaging in Detecting Prostate Cancer: One's Center Experience

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Introduction and Objectives: The aim was to analyse sensitivity and accuracy of MRI in detecting prostate primary tumour.

Materials and Methods: Retrospective study included 112 patients, whose diagnosis of prostate cancer was confirmed by TRUS biopsy before MRI (March 2010 – March 2012), followed by radical prostatectomy (RP). MRI was performed with 1.5T MRI unit with body coil. All the examinations included T2W, diffusion-weighted imaging (DWI) and postcontrast scans.

Results: The cancer detection rate was 90 patients, sensitivity – 80.4%. In the group with positive MRI result, more TRUS prostate biopsy cores have been with cancer, 3.1 vs 2.3 (p=0.028), higher cancer volume was found – 9.72 vs 5.65 cc (p=0.008) and tumour involved both prostate lobes – 85 vs 18 (p=0.03). Only 28 MRI results coincided with histology report, sensitivity – 25% (Table 1). In the group of patients with MRI and histology agreement, PSA level was higher – 7.04 vs 6.20 ng/ml (p=0.029). We have found that the smaller volume of prostate cancer, the less informative MRI was in classification of primary tumour, 7.62 vs 12.85 cc (p=0.007). The patients age – 62.9 vs 60.8 y, prostate volume – 74.40 vs 63.99 cc, time after prostate biopsy – 40.6 vs 47 days, Gleason score: 6b – 17 vs 59, 7b – 9

UP.267, Table 1. Prostate primary tumour staging by MRI and histological investigation after RP.

MRI result	Histopatological result			
	pT2a	pT2c	pT3a	pT3b
Not visible	4	16	1	1
mT2a	0	11	0	0
mT2b	1	18	1	1
mT2c	0	22	2	6
mT3a	1	5	2	0
mT3b	2	11	1	4
mT4	1	1	0	0

Pearson Chi-Square, p=0.077

vs 24, ≥8b – 2 vs 1, lesions after biopsy – 4 vs 8, lobes involved by the process (both lobes dominate in groups) had not any impact on the detection of primary tumour ($p>0.05$).
Conclusion: MRI sensitivity in prostate cancer detecting is higher than in staging a primary tumour. MRI sensitivity of cancer detection depends on cancer volume and prostate lobes involved in process. MRI classification accuracy of primary tumor depends on PSA level and prostate cancer size.

UP.268
A New Method of Penile Reprosthetics Using Universal Cavernous Bodies Implant
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Introduction and Objectives: The correction of cavernous bodies development anomalies, complications after different kinds of penile corporoplasty, or recurrent penile surgery (re-implantation) are the most complicated in urology and genital surgery. The existing and known ways of surgical treatment – cavernous bodies' structure repair followed by penile prosthetics using autologous tissues or various transplants – are rather sustained (require 3-4 hours) and traumatic, which has caused investigation of a new surgical technique. The objective of the present research is to develop and assess efficiency of reprosthetics as a means of reproductive function restoration in men.
Materials and Methods: We operated on 3 objects that had had purulent cavernitis; mean age of the objects was 44.5±6.7 years old. All the objects underwent penile reprosthetics not earlier than 6 months after surgical misadventure. Considering evident purulent dissolution of cavernous bodies, total obliteration was detected, so for penile reprosthetics it was decided to use cavernous bodies implant developed by us and produced by Implanta (Russia).
Results: Course of operation: an access to deformed cavernous bodies was performed sequentially by turns by two lateral longitudinal sections next to the root of penis, cavernous bodies were opened longitudinally, distal part of one most preserved cavernous body was boogied to its maximum, a plastic prosthesis was placed (diameter 11 mm), a cavernous body implant was put on the proximal part as a cover, it was advanced into the apical part of penis, shaped and fixed with Monocryl 4.0 from two contralateral sections, the wound was closed layer-by-layer, a circular aseptic bandage was applied. The operation lasted for 2 hours in average.
Conclusion: The given surgical technique of penile reprosthetics allows reducing operation duration significantly – by almost two times, – as well as its traumatism. Considering the implant's universality, it is possible to make an intraoperative independent decision about which part of the cavernous body will be replaced: the proximal or the distal one; it is also possible to replace the cavernous body by prosthesis totally.

UP.269
Penile Paraglandular Test in Treating Patients with Premature Ejaculation
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Introduction and Objectives: According to statistics premature ejaculation (PE) refers to the most frequent sexual disorders in young and middle aged males, it occurs in 5-40% of male population. Conservative therapy is the "golden" standard how to treat this pathology, nevertheless, in cases when no clinical effect is noted surgery becomes urgent.
Materials and Methods: The objective of the present research was to develop a diagnostic technique to prognose PE surgical treatment efficiency. We offered a paraglandular test - hypodermic self-injection of anesthetic into neurovascular fascicle projection of 1/3 distal part of penile trunk. The described diagnostic test is carried out in 3 steps and requires doctor's careful instructions on implementation technique as well as on the possible complications. The first step includes teaching the patient how to make hypodermic self-injection of anesthetic into balanus, the second step is the test itself, and the third step involves interpretation of the results received and selecting operation tactics together with the patient.
Results: Hypodermic injections of 1ml of 2% Lidocaine with insulinic syringe into dorsal neurovascular fascicle projection in the crossover point 1sm (to the left or to the right) from the median line along penile dorsal surface and 2sm proximalwards from coronary sulcus of penile trunk. Self-injections are interchanged in triples on each side before each coitus and 10 minutes before it.
Conclusion: Penile paraglandular test indicates when to go over from conservative therapy to surgical treatment of the patients with PE; it also helps to locate the position and estimate the volume of the coming neurotomy, as well as to imitate the result of the operation and prognose the coitus quality.

UP.270
Characteristics of Adult Urethral Stricture Disease and Repair Following Pediatric Hypospadias Repair
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Introduction and Objectives: Development of urethral stricture is a well-known, though infrequently reported, complication of pediatric hypospadias repair. This study aims to report the experience at the University of Alberta in treating such patients.
Materials and Methods: A retrospective chart review on a consecutive series of adult patients undergoing urethral stricture repair by a single surgeon between 2003-2012 was undertaken. All patients presented with current urethral stricture and a history of childhood hypospadias repair. Patient, stricture, and treatment characteristics were abstracted from the charts and analyzed.
Results: A total of 44 patients were identified and reviewed with a mean followup of 50 months. Mean age at presentation was 36.0 years old. Urethral stricture always involved the anterior urethra, with the majority (36/44) involving the penile urethra, 6 cases involving the bulbar urethra, and 2 cases spanning the penobulbar urethra. Average stricture length was 6.34 cm (range: 2 cm to 15 cm). Of the 44 cases, 36 patients had undergone previous DVIU/dilatation and 14 patients had undergone a previous attempted open repair. Open graft-based urethroplasties were performed in 42 of 44 cases, with 18 patients receiving a single stage procedure and 26 patients receiving a two-stage procedure. At a mean of 50 months follow-up, there were only two failures, with one case failing at 2 weeks due to abscess and penile island flap necrosis and the other at 23 months. Complications at 90 days were reported in 9 patients, with the majority reporting hematoma, pain, or minor wound issues. Two patients developed fistulas with one requiring operative management.

Conclusion: Our study suggests that urethral stricture is a real and severe complication of pediatric hypospadias repair that can occur decades after the initial hypospadias repair. The success rate at our institution for urethral reconstruction following pediatric hypospadias repair was 95%, which is higher than the numbers reported in the literature. The overall complication rate was 20%, but the majority of these complications were minor.

UP.271
Self-Induced Penile Fractures: Etiologies and Outcomes of 122 Patients
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Introduction and Objectives: Penile fracture is a well-recognized and relatively uncommon clinical entity. It was previously reported that the incidence of penile fracture varies according to various geographic regions. To determine whether marital status or culture other than geographic region is involved in the etiology of penile fracture in our country.
Materials and Methods: The charts of 122 men diagnosed with penile fracture were retrospectively reviewed. Detailed history including cause, symptoms, country of origin (where they lived during childhood and adolescence years) and a single-question self-report of erectile dysfunction was used for all cases. Immediate or delayed surgical repair of penile fracture included a degloving circumferential, and an additional direct incision if the site of the tear could not be reached via degloving, was performed. The patients were evaluated after one week and one, three, and six months follow-up by penile examination, recording complications, and with a single-question self-report questionnaire after three and six months.
Results: The most common cause of penile fracture was manual bending of the erected penis in 66 out of 122 (54.1%) of our study patients. The marital status of 109 patients who were followed for up to one year were single, married and married but living away from their wives in 60, 28, 21 cases, respectively. The involvement of Qatari and non-Qatari cases was 46 (37.7%) and 76 (62.3%), respectively. Erectile functions of 95.9% of the patients, other than 11 patients with delayed repair, were normal after 3 months according to the single-question self-report of erectile dysfunction.
Conclusion: In our study, we believe that the prime causes of bending the penis are single status and culture, which are influencing factors irrespective of the geographic distribution.

UP.272
Enterovesical Fistula: Retrospective Analysis of 14 Patients
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Introduction and Objectives: A retrospective analysis of enterovesical fistula treated in our center was conducted to determine the optimal diagnosis and management of this disease.
Materials and Methods: The records of 14 patients who presented from 2008 to 2012 and had a final diagnosis of enterovesical fistula were reviewed. The etiology, symptoms on presentation, diagnostic tools, and modality of treatment were analyzed.
Results: The majority of these cases were associated with diverticulitis (8, 57.14%). The other causes were malignancy 2 (14.28%), Crohn's disease 2 (14.28%), Tuberculosis 1 (7.14%) and trauma 1 (7.14%). The most frequent symptoms in enterovesical fistula were storage symptoms followed by pneumaturia and dysuria. Four of our patients presented with fecaluria, 1 with hematuria. Abdominal pain was present in most of the cases. Diagnostic tools included the contrast enhanced computed tomography (CT) scan of abdomen, CT cystography, upper gastrointestinal endoscopy and colonoscopy. All the patients underwent cystoscopy prior to the definitive surgery for definition and management decisions. Patients underwent definitive bowel surgery with partial cystectomy and suprapubic urinary diversion (SPC). SPC diversion was kept for 3 weeks and proximal enteral diversions were restored after 2 to 3 months. Only 1 (7.14%) patient had recurrence with rest of the patients doing well.
Conclusion: Enterovesical fistula should be considered if fecaluria, pneumaturia, or persistent non-specific urinary symptoms were present as the initial complaint. Successful management includes prompt diagnosis, urinary and proximal enteral diversions with definitive surgery. However, treatment of this entity should be individualized according to patient's clinical status.

UP.273
Hystochemical Outcomes of Tissue Remodeling after Penile Girth Enhancement Using Biodegradable Scaffolds
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Introduction and Objectives: Autologous tissue engineering by using biodegradable scaffolds as a carrier is a new and safe therapeutic approach for penile girth enhancement. The principle of this technique is to transplant autologous cells onto biocompatible and biodegradable scaffolds that will provide appropriate mechanical strength to induce three-dimensional tissue growth and consequent penile enlargement. The aim of this study was to perform microscopic evaluation of tissue remodeling after penile girth enhancement using this technique.
Materials and Methods: Between 2007 and 2012, a group of 18 patients, aged 22-39 years, underwent repeated penile enhancement using biodegradable scaffolds, after psychiatric evaluation, and after approval of institutional review board. During repeated procedure, samples of newly formed tissue after previous surgery were obtained. Surgically removed specimens were fixed in 4% formaldehyde for light microscopy and in 3% glutaraldehyde for electron microscopy, and routinely processed for microscopic analysis.
Results: Connective tissue with anabundance of connective tissue fibers, with small blood vessels and inflammatory cells were seen in all analyzed surgically removed tissue. Ultrastructural analysis of these tissue samples discovered the presence of large quantity of collagen fibrils that were regularly arranged in parallel, forming bundles, with a few widely spread fibroblasts. Mast cells were present in all tissue samples and some were partly degranulated. In one sample, groups of fibroblast were observed, in contrast to other samples studied where fibroblasts were largely separated from one another with abundant collagen fibers. In these fibroblasts the presence of lipid droplets were found. Lipid droplets were small, but variable in size and number in lipid-laden fibroblasts. Lysosomes were also observed in the cytoplasm of these fibroblasts.
Conclusion: Microscopic evaluation of newly formed tissue induced by autologous tissue engineering by using biodegradable scaffolds showed the presence of

vascularized loose connective tissue with abundance of collagen fibers, fibroblasts and inflammatory cells, indicating active neovascularization and fibrillogenesis.

UP.274
Ventral Buccal Mucosa Graft for Repair of Urethral Stricture in Failed Hypospadia
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Introduction and Objectives: Urethral stricture is one of the most common complications after severe hypospadias repair. Usually, two or more procedures are required to its correction due to lack of available material after previous repair. We evaluated one stage urethral reconstruction using ventral buccal mucosa graft after ethics board approval was obtained.
Materials and Methods: From August 2007 to June 2012, 48 patients, aged 17 to 37 years, underwent urethral stricture repair after failed hypospadias surgery. Stricture was opened ventrally and buccal mucosa graft with appropriate size was placed to augment the urethra. Graft was hanged on surrounding urethral tissue by several U sutures. This way, good covering of the graft and prevention of its folding with retraction were achieved. Associate chordee in 19 patients were corrected simultaneously.
Results: Mean follow-up was 36 (9–66) months. A successful result was confirmed in all patients by urethrography and uroflowmetry. Urethral fistula in three cases was corrected three months later. Recurvation did not occur in this group.
Conclusion: Ventral buccal mucosa grafting presents simple and safe variant for urethral stricture repair. However, hanging of the graft is very important for its survival and prevention of folding with retraction.

UP.275
Management of the Corpora Cavernosa Remnants after Male to Female Sex Reassignment Surgery
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Introduction and Objectives: Postoperative erection of the corpora cavernosa remnants presents one of possible complications in male to female transsexual surgery. To prevent this complication, we introduced a complete disassembly of all penile entities, which provides ideal exposure of the corpora cavernosa for their removal at the level of attachment to the pubic rami. However, in cases with more extensive tissue remnants, a radical surgical approach is necessary to reach the leftover erectile tissue and completely remove it from the pubic bones.
Materials and Methods: Between September 2007 and August 2012, 27 patients aged from 23 – 52 years, underwent evaluation and repair, after previous sex reassignment surgery. Simple examination usually revealed remaining erectile tissue after primary repair and total penectomy. Depending on the length of the remnants, patients reported inability to engage in sexual intercourse, painful sexual arousal, unusual mass around the clitoris and unclear sensation deep in the pelvis. Surgery was performed in pharmacological erection induced by Prostaglandin E1 into the remnants of corpora cavernosa. It enabled a full erection and easier dissection from surrounding structures and prevented possible injury of the urethra or clitoral neurovascular bundle. Meticulous dissection and complete removal of the remnants offers excellent success and postoperative results, with minimal morbidity or complications. For better esthetical appearance, reshaping of the clitoris, reconstruction of the labia and removal of previously formed scar formation should be included as a part of this procedure.
Results: Mean follow-up was 12 months (ranged from 6 to 65 months). Complete removal of the corpora cavernosa remnants was achieved in all patients. Length of removed corpora cavernosa ranged from 5 to 9 cm. Good esthetic results were achieved in 24 patients. Three patients reported wound dehiscence, which was repaired in one case with the minor surgery and in another healed by secondary intention. Sexually active patients (21 patients) reported satisfying sexual arousal, and no difficulties in vaginal penetration.
Conclusion: Dealing with the complications after male to female transsexual surgery poses big challenges for the reconstructive surgeons. Radical approach with complete removal of the remaining corpora cavernosa presents the unique way in the management of this pitfall.

UP.276
Management of Iatrogenic Ureteral Injury: 25 Years Experience
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Introduction and Objectives: We evaluated the long term results of our experience in the management of early diagnosed cases of iatrogenic ureteral injury versus patients with delayed presentation between October 1986 and October 2011.
Materials and Methods: During 25 years, 82 out of 94 cases were evaluated after treatment (as 12 cases were lost for follow-up). They included cases following gynecological, abdominal surgical and urological operations. The injuries were outlined by the surgical procedure in early cases and by U/S, KUB, IVP, CT scan and retrograde ureterogram in late cases. Patients were evaluated during the follow- up for both functional and morphological outcome.
Results: Twenty six cases (31.7%) were recognized at the time of surgery. They included; 12 cases with perforation and massive extravasation during ureteroscopic stone management, 8 cases during gynecologic surgeries and 6 cases with avulsion of the lower ureter referred to our center within the first 24 hours after surgery. Management of the early diagnosed cases included concomitant repair in 3 cases (11.5%), reanastomosis in 4 cases (15.4%), reimplantaion in 16 cases (61.8%) and Boari flap with stenting for 4-6 weeks in 3 cases (11.5%). Late presentation was seen with either post-operative obstruction in 7 cases (12.5%), or fistula in 49 cases (87.5%). Endoscopic trial for rerouting was routinely attempted in all these cases. Ureteroscopic stenting for 6-8 weeks was successful in 14 patients (25%) (12 fistula and 2 obstructed), while in 42 patients (75%) (5 obstructed and 37 fistula) PCN was fixed with successful open repair after 4-6 weeks. Re-implantation was done in 24 cases (57.1%), Boari flap in 16 (38.1%), and ileal conduit replacement in 2 cases (4.8%). The mean follow-up was 38 months (ranging from 16-98), by U/S, CT, or diuretic renal scan. It was observed that out of the total cohort, only 2 units (2.4%) of the late presented cases, had suffered renal function loss 3 and 12 years after UV reimplantaion and Boari flap substitution.
Conclusion: Prior expectation and immediate interference with ureteric stenting is a key factor to avoid both ureteric injuries and a complication free early management. Injuries recognized with obstruction or fistula are managed by ureteroscopic rerouting and stenting. Failed cases are submitted to PCN which shorten the time needed for open repair to 4 weeks instead of 3-6 months. Treatment by experienced surgeon minimizes both morbidity and long term complication with better renal salvage.

UP.277

Iatrogenic Ureter Injuries during Gynecologic Surgery

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Introduction and Objectives: Iatrogenic traumatisms of the ureter may occur during any surgical operation, whatever is pelvic, abdominal or retroperitoneal, as well as during a laparoscopy or an ureteroscopy; nevertheless, gynecologic surgery is still the most frequent etiology.
Materials and Methods: Our study is retrospective about 7 iatrogenic traumatisms of the ureter collected in the Urology Department Kairouan in the period from 2007 to 2012.
Results: The mean age of our patients was 42 years (34 to 54 years). All the patients have gynecologic and obstetric past-cases: Cesar-section, hysterectomy. The diagnosis was post-operative. The clinical symptoms were: loss of urine by the vagina with persistant micturition, flank pain and symptoms related to a urinary tract infection. The diagnosis was made by the uro-TDM. The treatment was surgical and ureteral reimplantation with anti-reflux system was the principal technique.
Conclusion: The ureteric trauma during the pelvic surgery is relatively rare. They are most often observed after hysterectomy, the diagnosis often tardive, involving the renal prognosis that justifies a precocious diagnosis and a preoperative management.

UP.278

Trends in Incidence, Type and Repair of Ureteral Injury Occurring During Hysterectomy Over Ten Years at a Single Institution

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Introduction and Objectives: To assess the changes in the incidence and repair of ureteral injury that occur during hysterectomy over ten years and to compare those that occurred during laparotomy to those occurring during laparoscopic and robotic procedures.
Materials and Methods: A retrospective review of the electronic medical record revealed 3366 hysterectomies since 2002. Codes consistent with open procedures revealed 1812 open hysterectomies, 799 vaginal hysterectomies, and 755 laparoscopic or robotic hysterectomies. These records were then further evaluated for subsequent codes identifying surgical ureteral interventions. Of these, 19 cases representing clear ureteral injuries secondary to hysterectomy were found. These were evaluated for the dates of procedure, hysterectomy technique, timing of diagnosis and treatment, and type of repair. Any ureteral injury requiring a multifaceted or difficult repair such as a psoas hitch and/or boari flap was considered complex as compared to a simple reimplant, ureteroraphy or stenting alone.
Results: A statistically significant difference ($p=0.0364$) was noted in the complexity of repairs required for different hysterectomy procedures. Fewer ureteral injuries resulting from robotic or laparoscopic hysterectomy required a high level of complexity (1/7) compared to the open procedure (7/10). No significant difference was noted in the overall incidence of injuries over time, the incidence in injury per procedure type, or the immediate intraoperative identification of injuries requiring repair per procedure type.
Conclusion: Over large populations, there may be a significant reduction in the overall cost of robotic or laparoscopic hysterectomy as compared to laparotomy due to the ease of repair of ureteral injuries sustained in those procedures. The current data is limited by a relatively small number of injuries and by short follow-up for some of the robotic patients who were managed with a low complexity repair such as with a stent alone. Further investigation may continue to demonstrate this difference and further support the use of robotic technology for hysterectomy.

UP.279

Surgical Reconstruction of Congenital Genital Anomalies of Pubertal and Post-pubertal Males

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Introduction and Objectives: To review the results of genital reconstruction in a group of male patients with congenital anomalies presenting late at pubertal or post-pubertal age, and to identify any complications encountered and their risk factors. A secondary objective is to put forwards suggestions that may improve the outcome of the surgical reconstruction.
Materials and Methods: The records of all male patients aging 14 years or older, who underwent genital reconstructive surgery in King Abdulaziz University Hospital from 1986 until 2011 were reviewed. Patients were classified into five groups: 1) primary hypospadias or epispadias, missed to be repaired at optimal childhood age, 2) Complicated previous hypospadias repair, 3) Traumatic hypospadias, 4) Congenital penile curvature, and 5) Congenital peno-scrotal web.
Results: A total of 61 patients were evaluated. The age range was from14 to 44 years. The average age at repair was 23.44 years. Group 1 (A total number of 32 patients) consisted of 32 patients (51.7%) with primary adult hypospadias, and one patient (1.7%) with primary adult epispadias. Group 2 (A total number of 10 patients) consisted of cases with complicated hypospadias repair; 8 (13.3%) patients were complicated with urethral stricture while 2 (3.3%) were patients complicated with urethral diverticulum. Group 3 consisted of patients with traumatic hypospadias; n=5(8.3%). Group 4 consists of patients with congenital penile curvature n=9 (15%). Group 5 consisted of adults presenting with congenital peno-scrotal web; n=4 (6.7%). Snodgrass (TIP) repair and its modifications such as augmentation of the urethral plate was best suited for adult hypospadis repair. Complicated previous hypospadias repair with urethral strictures required individualized techniques for the repair. Penile curvature and peno-scrotal web were repaired in a standard fashion.
Conclusion: Applying the principles of surgical reconstructive techniques utilized for paediatrics repair of congenital genital anomalies might be applicable in adults within narrow limits only. The anatomy and sexual function of adult male genitalia require additional technical manoeuvres at reconstruction. Hypospadias repair in adults is different from hypospadias repair in childhood and additional approach to augment the urethral plate such as free and pedicled tissue transfer might be required in some cases to ensure adequate outcome.

UP.280

Modified Y/V-Plasty for the Treatment of Recurrent Bladder Neck Contracture: Outcome and Patient Satisfaction

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Introduction and Objectives: Recurrent bladder neck contractures after surgery for benign prostatic hyperplasia are a rare but troublesome complication. The study was conducted to assess the outcome, satisfaction and the improvement of qual-

ity of life for YV-plasty in a modified technique in patients with highly recurrent bladder neck contracture (BNC).
Materials and Methods: Comprehensive retrospective analysis by pts chart review and standardized questionnaire including validated questionnaires (IPSS, SF-8, ICIQ-SF) of 10 pts treated by modified YV-plasty for highly BNC after surgery for benign prostatic hyperplasia in 2009-2012. Previous surgeries, recurrence rate, complications, micturition status, incontinence, satisfaction and quality of life were assessed. Difference to the standard Y/V-plasty was a T-shaped incision of the anterior bladder wall. By this technique two well vascularized flaps were created, which offer the possibility to reconstruct a wide bladder neck and anterior prostatic urethra.
Results: Mean age was 69.2 yrs. (range 61-79), mean follow up was 26 months (3-46). All pts. had had multiple previous (trans-)urethral surgeries (mean 3.5, range 2-5). Etiology was transurethral resection of the prostate in 70%, holmium enucleation of the prostate in 20% and HiFU of the prostate in 10%. Success rate was 100%. No complications were reported. No de novo stress incontinence occurred. 1 pt. noted a pre- and postoperative urge incontinence due to overactive bladder. There was 50% of pts. Who reported a strong or very strong, 20% a moderate and 20% a weak urinary stream. Mean postoperative IPSS-score was 11.3 (range 4-29), postoperative IPSS-QoL was delighted or pleased in 70%, mixed in 10% and due to urodynamic hypocontractile detrusor in one pt. mostly dissatisfied. Pts. satisfaction was very high in 70%, high in 20%, 10% were undecided. Quality of life improved in 90%; 10% report no change.
Conclusion: The technique of modified YV-plasty for the repair of highly recurrent bladder neck contractures seems to represents a successful and safe method and improves quality of life with good satisfaction rates. No complications were seen.

UP.281
Success Rates and Outcome of TUR of the Bladder Neck for Recurrent Bladder Neck Contractures
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Introduction and Objectives: Highly recurrent bladder neck contractures (BNC) after transurethral or open prostate surgery are a rare but troublesome complication. This study was conducted to assess the outcome, satisfaction and the improvement in quality of life (QoL) for endoscopic treatment in patients with recurrent BNC.
Materials and Methods: Comprehensive retrospective analysis by pts chart review and partly-validated standardized questionnaire (including IPSS, SF-8, ICIQ-SF) of 44 pts treated by TUR of the bladder neck for recurrent BNC. Previous surgeries, recurrence rate, complications, incontinence, satisfaction and QoL were assessed.
Results: Mean age was 66 yrs, mean follow-up was 23.6 months. Mean number of previous transurethral treatment was 2.6. Including prior dilatations, mean number of interventions was 3.6. Etiology of BNC were transurethral or open BPH treatment (25.1 %), radical prostatectomy or cystoprostatcetomy (65.9%), 6.9% of pts were irradiated initially, 2.3% of contractures were idiopathic. Overall BNC-recurrence rate after transurethral resection was 61.4%. After up to 2 previous endoscopic treatments for BNC recurrence rate was 50%, while this rate increased to 76.5% after 3 or more endoscopic interventions (dilatations not included). However, a statistical significance could not be observed. Post-op UTI occurred in 7 pts. (16.3%). No other complications were reported. A total of 59.1% of patients reported of incontinence, but no de-novo incontinence was observed. Mean IPSS-score at time of follow up was 12.5 (range 0-27); mean IPSS-QoL was 3.1 (range 1-6). In pts without recurrence of BNC postoperative IPSS-score was 10.5, mean IPSS-QoL was 2.8 (range 1-6). Pts satisfaction was very high in 31.8%, high in 18.2%, 13.6% were undecided. Quality of life improved in 56.1%, 26.8% reported a reduced QoL.
Conclusion: Overall success rates of transurethral resection in recurrent BNC was relatively poor, especially in highly recurrent cases (>3 previous resections of BNC). Although extensive transurethral resection was performed in an ascending aggressiveness, incontinence rates were not increased by this method. After three failures of endoscopic treatment we suggest an open surgical approach by perineal reanastomsis or YV-plasty depending on the etiology of BNC.

UP.282
Investigation to Restore Innervation of the Lower Urinary Tract of Spinal Cord Injured Patients: A European Single-Center Retrospective Study with Long-term Follow-up
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Introduction and Objectives: SCI of the upper motor neuron often leads into detrusor-sphincter-dyssynergia causing renal failure and QoL impairment. Standard treatment includes catheterization and pharmacotherapy to reduce detrusor pressure. Successful bladder innervation using nerve rerouting (NR) in SCI patients has been currently reported only by few centers in China. We evaluated the effectiveness of lumbar to sacral ventral root (VR) somatic-automatic-reflex pathway nerve rerouting in SCI patients with upper motor neuron disease.
Materials and Methods: We retrospectively reviewed data from an institutional-review board-approved database for 8 patients who underwent NR at a University clinic between 2/2005-8/2007 in an approved individual treatment attempt. Patients gave written informed consent. Mean time between SCI trauma and surgery was 82.9 (range 4-288) months. After hemilaminectomy and identification of dedicated VRs by intraoperative VU and electrophysiology, an intradural nerve anastomosis L5-S2 VR was performed. Patients were advised to scratch/squeeze the corresponding dermatome to stimulate the newly-established somatic-autonomic-reflex pathway. Patient post-operative follow-up were requested at 1, 3, 6, 12, 18 months and annually thereafter. Primary measurements were voluntary micturition and detrusor pressure normalization. Secondary were VU parameters, urinary tract infections (UTI), bladder/stool diary parameters.
Results: Eight patients (mean age 30 (21-44y)) received nerve-rerouting surgery with a mean operating time of 202 minutes (SD+49) without intraoperative complication. Intraoperative testing indicated successful NR surgery. Postoperative VUs were performed through the ipsilateral dermatomes to identify and record even the weakest initial reactions. VU follow-up is available in 6 of 8 patients. No patients with lower urinary tract dysfunction improved within the follow-up of mean 5.9 years. Two patients reported slight improvement of bowel movement and reduced UTI frequency.

No significant VU and bladder diary parameters improvements were recorded. The clinical follow-up was 71(56-86) months. The long-term follow-up indicated no significant differences in the presence of DSD or other data points.
Conclusion: Patients were not able to reproduce the encouraging results of the initiator group. New animal studies investigating uni- vs. bilateral rerouting after spinal cord transection, followed by standardized treatment protocols in a highly-controlled study environment, are necessary to further investigate and validate sacral NR potential as previously published. Human study results should be accumulated and reported. Until the effectiveness of this surgical approach can be confirmed in clinical trials, this procedure should not be suggested to or performed on any further SCI patients.

UP.283
Stabilization Strategies of Tissue Engineered Urothelium and Its Application in Nude Rats and Minipigs
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Introduction and Objectives: Engineered urothelial implants could replace flaps in open urethral surgery and can be used in endoscopic urethroplasty. Matrix-free engineered urothelium is mechanically delicate and requires stabilization with regard to clinical application. Strategies to enhance stability might be the co-cultivation of urothelial cells (UC) with other cell types, strengthening urothelium with stabilization factors prior to application, and cultivation on carrier matrices. The study's aim was to investigate the viability of fibrin glue-sprayed UC cultures and suitability of collagen cell carrier (CCC) as a matrix for UC. Both obtained urothelial implants, sprayed and matrix-based, were applied in nude rats and minipigs.
Materials and Methods: The influence of fibrin glue on the viability of confluent UC cultures, as well as their proliferation and metabolic activity on CCC were analyzed via WST-1 and BrdU assay. PKH26-labelled UC were seeded on CCC and stratified afterwards or multilayered urothelia were detached and then sprayed with fibrin glue prior to application. In a xenogenic model urothelial implants were sutured on the rectus muscle of athymic rats. The application for surgical reconstruction of an experimentally-induced urethral stricture in an autologous minipig model was performed. All implants were examined histologically for integration and via immunofluorescence for epithelial phenotype.
Results: The viability of fibrin glue-sprayed confluent urothelial cultures was moderately reduced (89% of unsprayed control). Engineered urothelium with fibrin glue showed good mechanical stability. Stratified UC on CCC revealed a metabolic activity of 91% and proliferation rates up to 139% compared to controls. All constructs were well manageable with surgical instruments and suture was feasible. Integration of the different urothelial implants was detected via PKH26 fluorescence. In both animal models no distinct signs of inflammation were observed. In nude rats the epithelial phenotype of the implants was demonstrated 7 days after application, in the minipig up to 9 months, respectively.
Conclusion: Tissue engineered urothelium displayed enhanced mechanical stability when sprayed with fibrin glue or being cultured on CCC with considerably low impact on the vitality, proliferation and metabolic activity of UC. Both implant types were successfully applied in small and large animals and proved its suitability in pre-clinical settings.

UP.284
Urethral Pull-Through Operation for Posterior Urethral Stricture: Outcomes of a 23-Year Experience
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Introduction and Objectives: To present long-term results of the urethral pull-through operation for posttraumatic posterior urethral stricture at our clinic.
Materials and Methods: A total of 83 patients with posterior urethral stricture resulting from pelvic fracture injury underwent the urethral pull-through operation at our institute from August 1989 to March 2012. Patient age was 6 to 75 years (mean 31.2) and stricture length was 1.5 to 3.2 cm (mean 2.1). In 36 patients (49.3%) previous management with open or endoscopic procedures had failed. Follow-up included symptomatic and urinary flow rate evaluation, which was performed 6 and 12 months after the urethral pull-through operation in all patients and thereafter when needed, and urethrography and/or urethroscopy in patients with voiding symptoms.
Results: Patients were followed for 12 to 120 months (mean 62.5). During that period 68 patients 82% were symptom-free and required no further procedures. The maximal flow rate in each case was greater than 12 ml per second. Recurrent stricture developed in 15 patients. All treatment failures occurred within the first 6 months postoperatively. Failed repairs were successfully managed by endoscopically in 10 patients and by open reconstruction in 5 patients a primary success rate of 96.5% and a final success rate of 100%. All patients were continent. Erectile dysfunction was noted postoperatively in 7 patients (8%). There was no chordee, penile shortening or urethral diverticula.
Conclusion: The urethral pull-through operation is effective for the surgical treatment of posterior urethral stricture even after multiple prior procedures and provides excellent long-term results with minimal morbidity.

UP.285
Universal Stenting of Renal Transplants Associated with a Low Complication Rate When Quality Assurance Program Ensures Stent Removal
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Introduction and Objectives: The routine use of ureteral stents during renal transplantation remains controversial despite recent evidence that empiric stenting decreases ureteric complications. Further, assurance of timely removal of ureteral stents remains a logistical challenge. In 2004, our transplant program instituted a plan of universal stent placement and implemented a quality assurance program to ensure stent removal. This study aimed to demonstrate that: 1.) empiric stent placement combined with quality assurance measures results in timely and reliable stent removal, avoiding the morbidity of retained stents, and 2.) universal stenting is associated with low ureteric complications rates.
Materials and Methods: Our existing database for outcomes assessment was adapted to include compliance in documenting stent removal. A transplant nurse coordinator scheduled and documented stent removal. Quarterly chart review was implemented to confirm that all stents were removed within 90 days of transplant. For the purpose of this study, urinary tract complications were retro-

spectively determined; urine leak, ureteral stricture, and delayed stent removal were assessed.
Results: Eighty-five renal transplants were done over the 40-month period of the study. Stents were placed during 83 of the 85 transplants. One-year graft survival was 91%. Urine leaks were identified in four patients (5%); one of these patients was not stented at the time of transplant. Two of these patients were treated with exploration, repeat ureteral reimplant, and stent placement; two patients were treated successfully with urethral catheter drainage alone. One ureteral stricture was diagnosed after stent removal and was treated with percutaneous nephrostomy tube placement. Two patients had delayed (>90 days) stent removal recognized only by chart review. Four patients had a deliberate delay in stent removal; in all cases this was due to ongoing treatment of wound complications and/or lymphoceles.
Conclusion: No retained stents occurred during the study period. Routine ureteral stent placement at the time of renal transplant was safe when quality assurance measures were employed to ensure absolute compliance with removal. Further, with empiric stenting, ureteric complications were low. Universal ureteral stenting with monitoring for appropriate removal appeared to be safe and effective.

UP.286
Arterial Anastomosis and Surgical Complications in Kidney Transplantation
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Introduction and Objectives: In our department, the recipient's common iliac artery (CIA) or external iliac artery (EIA) are usual options for placing the vascular anastomosis. Recipient's and graft vessels characteristics determine the best place for the anastomosis. We compare the arterial anastomosis (ART) location on surgical complications: vascular thrombosis and/or stenosis; urological stenosis and/or fistula; and lymphocele.
Materials and Methods: Retrospective review of 2312 renal transplants between 19.01.1986 and 13.01.2012. The minimal follow-up was five months.
Results: Mean recipient age was 43.95±13.98 years and the majority of male gender (66.5%). The ART was placed in the aorta (AA) in 13 grafts (0.6%; 7 of those less than 13 years old), CIA in 1795 (78.4%), EIA in 401 (17.5%), internal iliac (IIA) in 61 (2.7%), contra lateral common iliac in 5 (0.2%) and double transplants using CIA and EIA in 10 grafts (0.4%). The use of CIA or EIA, had higher mean recipient age (44.3 years vs 35.1; p<0.000), and weight (64.8kg vs 57.7; p<0.0005), male donors (71.5% vs 57.1; p= 0.002), lower surgical time (78.8% ≤ 3h vs 54.1; p<0.0005) and less surgical complications (17.5% vs 25.0; p=0.039). On multivariate analysis, the use of CIA or EIA was associated with a higher recipient age (OR: 1.048; p=0.001), lower donor age (OR: 0.948; p<0.005) surgical time ≤ 3h (OR: 4.046; p<0.005). When comparing CIA vs EIA, on multivariate analysis, EIA was associated with higher mean donor age (OR: 1.013; p=0.011); and with recipient male gender, (OR: 1.508; p=0.013) higher mean weight (OR: 1.022; p<0.000) and older age (OR: 1.036; p<0.0005).
Conclusion: The CIA and EIA were used in the majority of patients (95.9%). When compared to CIA, the use EIA was used in older donors, older and heavier recipients, who usually pose more technical difficulties to the transplant surgery. The use of EIA or CIA was associated with a lower surgical time. No differences were found regarding surgical complications.

UP.287
The Use of Ureteric Stent and Major Urological Complications in Renal Transplantation
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Introduction and Objectives: Ureteroneocystostomy in kidney transplantation could be done with several techniques with or without ureteric stent. The use of catheter is done as a prophylactic measure to avoid urological complications (stenosis and/or fistulas). In this study with compare the use of ureteric catheter and the event of major urological complications (UC).
Materials and Methods: Retrospectively review of 2061 patients with end stage kidney disease, including 1360 male and 684 female, who underwent kidney transplantation (75 living and 1986 cadaveric donor) from 14.07.1991 to 13.01.2012. During this period the surgeon could decide between the use of double J stent (JJ) (N = 1890), external tutor (ET) (N = 52) or no stent (NS) (N= 119). Minimal follow-up was five months.
Results: Mean recipient age was 44.66 ±13.66 years. The UC occurred in 5.9%; those with ET had 17.3% of UC (vs 8.4% NC vs 5.4% JJ; p<0.0005). The UC were more frequent with surgery time > 3h (8.8% vs 5.3% ≤ 3h; p=0.003), with older donors (43.6 years vs 40.5 p= 0.048) and donors with higher weight (76.3 kg vs 72.2 p=0.009). No differences were found in recipient age, gender or weight; donor gender, dialysis duration, cold isquemia time, type of donor (living vs deceased) or initial imunossupression (m-TOR inhibitor vs calcineurin inhibitor). On multivariate analysis, the donor weight (OR: 1.025; p= 0.007), the use of JJ vs ET (OR: 0.279; p= 0.004) and a duration of surgery ≤ 3h (OR: 0.335; p<0.0005) were associated with urological complications.
Conclusion: The catheterization of the urinary anastomosis through a double - J ureteral stent is safe and useful in reducing urological complications. Those with shorter surgical time had fewer complications. The use of external catheter was associated with an unexpected number of complications.

UP.288
Salvaging Severely Damaged Renal Allografts with Synthetic Mesh Renorrhaphy and Neocapsule Reconstruction
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Introduction and Objectives: In an effort to expand the donor pool, organs are now being utilized from other unconventional donors. Conventionally, most of the injured renal allografts, such as with renal parenchymal lacerations, capsular loss, and total denudation of renal allograft, were not considered fit for transplantation due to concerns for post-operative hemorrhage, urinoma and other complications that lead to allograft loss. In the transplant literature there is no information available about being salvaged, technique of repair, complications and outcomes of such organs. We present our technique, postoperative imaging, and long term outcome in cases where damaged renal allografts that were salvaged and transplanted using woven Polyglactin mesh.
Materials and Methods: In this technique, off-the-shelf 12x12 inch polyglactin 910 hernia mesh was fashioned

around the kidney, providing a non-constricting outlet for the hilar vessels and the ureter to salvage allografts that had been damaged due to donor or recipient factors. The two tails of above fashioned mesh were wrapped at the convex border of the allograft, closed with a running suture. The technique was used in the following scenarios: i) Allograft with severe unidentified capsular damage from repeated SWL that ruptured at post-transplant reperfusion ii) Allograft with unrecognized grade 3 traumatic laceration and calyceal injury, identified due to expanding hematoma post-perfusion iii) thrombophilic pediatric patient on anticoagulation with allograft damage and total capsular denudation due to iatrogenic laceration with a needle used to drain lymphocele. These three patients underwent successful transplantation, requiring no adjustment to their immunosuppression. Postoperatively, ultrasonography was successfully used for imaging. Close blood pressure monitoring ruled out any development of compression causing Page Kidney.
Results: Using this technique, all three allografts were salvaged and no patient developed complications of Page kidney, obstructive hydronephrosis, hemorrhage or graft loss at follow up of 64, 15, and 27 months.
Conclusion: By adapting a technique previously utilized for managing renal trauma, we were able to achieve hemostasis, reverse renal failure, and provide a scaffold on which a new capsule could proliferate, without surgical complications. This easy to perform technique enabled us to salvage allografts that would have been potentially lost.

UP.289
Everolimus and Mizoribine with Reduced-dose Cyclosporine versus Full-dose Cyclosporine and Mycophenolate in De Novo Renal Transplantation
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Introduction and Objectives: Although calcineurin inhibitors (CNIs) have improved short-term graft survival in renal transplantation, long-term remains still difficult. CNIs have been implicated in the development of chronic allograft failure. Low-dose cyclosporine with everolimus may mitigate CNI nephrotoxicity and prolong graft survival. We compared the efficacy and safety of de novo everolimus with low-dose cyclosporine, mizoribine and prednisone versus matched historical group.
Materials and Methods: Fifteen living renal transplant patients, who were given low-dose cyclosporine, everolimus, mizoribine and prednisone from March 2012 to February 2013, were enrolled in this study. These groups were compared with patients given standard cyclosporine or tacrolimus, mycophenolate or mizoribine, and prednisone from January 2007 to December 2011. The present study describes the renal function (eGFR), rejection rate, adverse effect, CMV infections, therapeutic drug levels of CNIs and everolimus at every month after transplantation.
Results: Demographic characteristics were similar in both groups except for donor age. There was no significant difference between the low-dose cyclosporine and standard cyclosporine or tacrolimus groups up to 6 months mean estimated GFR (44.3ml/min/1.73m^2 vs. 40.7 ml/min/1.73m^2). Biopsy proven acute rejection rate was 16.6% in historical group and 7.1% in low-dose cyclosporine group. (There was no significant difference) CMV infection occurred 27.1% in historical group within 1 year and 0% in everolimus with low-dose cyclosporine group within observation period.
Conclusion: These findings suggest that everolimus with low-dose cyclosporine, mizoribine and prednisone in de novo kidney transplant recipients was similar in efficacy and safety to standard cyclosporine or tacrolimus, mycophenolate, and prednisone. Longer follow-up is needed to see whether everolimus with low-dose cyclosporine has more benefit for graft function.

UP.290
Retroperitoneoscopic Live Donor Nephrectomy: Review of the First 50 Cases at Tygerberg Hospital, South Africa
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Introduction and Objectives: Changing from an open to laparoscopic live renal donor program poses challenges, especially in a resource restrained environment, and may have an effect on donor and graft outcomes. To evaluate the donor safety and graft outcomes for the first 50 retroperitoneoscopic live donor nephrectomies performed at Tygerberg Hospital.
Materials and Methods: The procedures were performed by a single surgeon from 8 April 2008 until 3 April 2012. Operative and anatomical data were prospectively collected. A flank approach with lateral and posterior 3- or 4-port placements was used. Vascular control was achieved with Hem-o-lok® clips in the majority of cases. Blood loss was estimated by the anaesthetist. Statistical analysis was performed using the unpaired t-test. Values are expressed as mean (range).
Results: The mean age of the donors was 31.5 (range 18 to 50) years, 28 (56%) were male, and the left kidney was harvested in 28 (56%) of cases. The mean operating time was 149.8 (75-250) minutes, warm ischaemic time (WIT) 181.3 (107-630) seconds, blood loss 139.7 (5-700) ml and hospital stay 3.2 (2-5) days. CT angiogram was incorrect in 9 renal veins and 3 renal arteries operated. Mean WIT was significantly longer for right-sided vs. left-sided nephrectomy (213 vs 162 seconds). In two right-sided cases the renal vein was too short and vena profunda femoris was used to create length. No donor received a blood transfusion. Comparing the last 25 with the first 25 cases showed a significant decrease in the mean WIT (158 vs 204 seconds) and operating time (128 vs 172 minutes). No conversion to open surgery, major complications or donor deaths occurred. Compared with three other published series, the donors in our series were younger and a greater proportion was female, but warm ischaemic time, blood loss, operating time and hospitalization were similar.
Conclusion: Our initial 50 cases of retroperitoneoscopic live donor nephrectomy were performed without major complications. Donor safety was maintained during the early learning curve of the transition to minimal access donor nephrectomy.

UP.291
Role of Polytetrafluoroethylene (PTFE) Vascular Graft in Salvage of Lower Limb following Vascular Injury in Renal Transplant Recipient
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Introduction and Objectives: In this study we report our experience in management of damaged (thrombosis, dissecting aneurysm) external iliac artery using polytetrafluoroethylene (PTFE) vascular graft in renal transplantation recipients resulting in lower limb salvage.
Materials and Methods: We describe PTFE graft in three patients of dam-

aged external iliac artery. Two patients complained of right lower limb weakness after right iliac fossa renal allograft transplantation. On evaluation they were diagnosed to have thrombus in external iliac that was managed by femoro-femoral artery bypass using suprapubic subcutaneous PTFE graft. In one patient it was dissection of the external iliac artery due to clamping, diagnosed intraoperatively during renal transplantation. It was managed by arterectomy and reconstruction of external iliac artery using PTFE graft.
Results: In all three renal transplantation patients PTFE graft was used as a vascular graft. In all three patients, excellent blood flow was present in lower limb on post operative Doppler scan. No intraoperative and post operative complications were encountered. All three patients had well preserved motor and sensory functions of lower limb. All three patients had preserved graft functions.
Conclusion: In the three described patients, PTFE vascular graft use had no postoperative complication secondary renal transplantation. However there needs to be more data to conclude that PTFE graft can be used safely in kidney transplant recipients.

UP.292
Long-term Follow-up of Living Kidney Donors: 32 Years of Indian Single Centre Experience
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Introduction and Objectives: Living kidney donation is the most common source of kidney graft in India. We report on our 32-year experience of living kidney donation.
Materials and Methods: We retrospectively retrieved medical records of living kidney donors at our institute over the past 32 years to analyse the general health status and cardio vascular consequences of living related kidney donation. Age of the donor, gender, intraoperative and post operative course and long-term morbiditiy were studied.
Results: There were 2247 total live kidney donations between April 1980 and Feb 2013. Out of these, 1160 were female. Mean duration of follow-up post donor nephrectomy was 4+/- 4.6 years (2 months – 17 years). After 2006 all donors are done by laproscopic transperitoneal donor nephrectomy. Mean donation age of 42.32 ± 14.47 years (range = 23-75y). The serum creatinine (Cr) at donation was 0.83 ± 0.322 mg/dL, while the last follow-up Cr was 1.26 ± 0.45 mg/dL (P < 0.001). Intra operative complications: 25 patients had pneumothorax, 6 patients had surrounding organ injuries, all treated conservatively. No intra operative mortality reported. On long-term 24 % patients developed hypertension, CKD 3 in 18.6%, CKD 4 in 5.4% and CKD 5 in <1% requiring transplantation. According to our records, 7.6% patients died due to medical diseases.
Conclusion: Donor nephrectomy has minimal adverse effect on overall health status. Follow-up of living donors is essential.

UP.293
The Dose-Dependent Effects of New Herbal Formula to Protect Erectile Function Compared with Phosphodiesterase 5 Inhibitor in Type 1 Diabetic Rats
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Introduction and Objectives: This study aimed to investigate whether the herbal formulations (KBMSI-2) can improve the erectile dysfunction in diabetes mellitus compared with phosphodiesterase 5 (PDE5) inhibitors.
Materials and Methods: Forty eight Sprague-Dawley male rats were randomly divided into six groups; control (n=8), diabetes (DM) (n=8), DM + KBMSI-2 50mg/kg treatment (n=8) groups, DM + KBMSI-2 100mg/kg treatment (n=8) groups, DM + KBMSI-2 200mg/kg treatment (n=8) groups, DM + tadalafil 2mg/kg treatment (n=8) groups. The DM induced groups received a single intraperitoneal injection of streptozotocin (STZ). Eight weeks after treatment, erectile function was assessed by intracavernosal pressure (ICP). Serial sections of the penis were used to perform Masson's trichrome stain. We analyzed the expression of nitric oxide synthase (nNOS, eNOS) and cGMP concentration in the isolated corpus cavernosum by western blotting.
Results: Peak ICP/MAP ratio was significantly increased in high-dose (200mg/kg) KBMSI-2 treatment group and tadalafil treatment group compared with DM untreated group (P<0.05). Masson's trichrome staining confirmed that the smooth muscle component was increased in tadalafil treatment group compared with DM untreated group. The expression of nNOS, eNOS and the levels of cGMP were increased in the KBMSI-2 treatment groups and tadalafil treatment group.
Conclusion: This study showed that herbal formula of KBMSI-2 improved the erectile function in dose-dependent manner by preserving the smooth muscle content and inhibiting the fibrosis of the corpus cavernosum in streptozotocin-induced diabetic rat model.

UP.294
Sildenafil Improved Penile Smooth Muscle Cell Function in a Rat Model of Cavernous Nerve Injury
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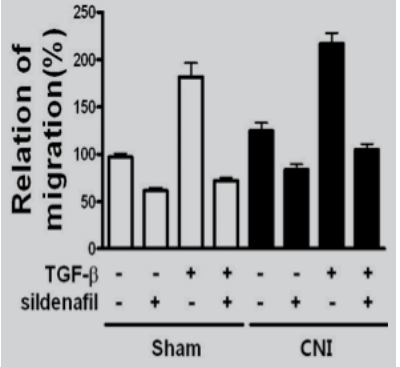
Introduction and Objectives: The importance of smooth muscle relaxation in penile erection has been demonstrated in animal and human studies. Smooth muscle cells (SMCs) migration and proliferation are key components of fibrosis and inflammation that lead to erectile dysfunction (ED). Indeed, monocultures of SMCs have been reported, but a SMCs culture system is still lacking. In our study, we applied a novel technique for the isolation of the rat cavernous SMCs and investigated the role of sildenafil in SMCs.
Materials and Methods: Using 8-weeks-old male SD rat, sham and cavernous nerve injury (CNI) operation under microscope were performed. After 2 weeks, penile tissues were harvested. We applied the two stage tissue culture methods utilizing Matrigel-based sprouting culture system to facilitate stromal cell sprouting and adherent culture system using D-valine to eliminate contamination of fibroblasts from SMCs. The expression of α-SMA, desmin, PECAM-1, and S100A4 in the SMCs was determined by standard immunofluorescent staining and immunoblotting. SMCs migration with/without sildenafil was measured using a Boyden chamber. The expression patterns of phosphodiesterase (PDE) families mRNA in SMCs were measured using quantitative real-time RT PCR
Results: ICP/MAP ratio of sham was significantly increased compared with CNI group. Immunocytochemical staining in the SMCs showed greater α-SMA and desmin-positive and PCAM-1 and S100A4-negative fluorescence. Moreover, whereas

the expression of α-SMA and desmin was detected in the SMCs, that of PECAM-1 and S100A4 was not. Penile SMCs migration was increased by TGF-β and decreased by sildenafil in both groups (Figure 1). The levels of PDE families mRNA were increased by sildenafil.
Conclusion: Our results showed that SMCs migration in rat penis was increased by TGF-β and it was inhibited by sildenafil. We suggested that the increase of penile SMCs migration could be related with ED and sildenafil should be improved SMCs function in CNI.

UP.294, Figure 1. Effects on TGF-β and sildenafil-induced migration of the rat penile SMCs.



UP.295
Proteomic Analysis of Seminal Fluid from Infertile Patients with Oligoasthenoteratozoospermia
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Introduction and Objectives: To compare the expression protein profile of seminal plasma from infertile men with oligoasthenoteratozoospermia (OAT) due to oxidative stress; and healthy, fertile men to determine the proteins indicative of infertility.
Materials and Methods: In this experimental study of a University hospital and research institute the semen samples from 11 healthy, fertile (according to WHO criteria) male volunteers and 11 infertile idiopathic oligoasthenoteratozoospermia (iOAT) patients were measured. Main Outcome Measurements were Proteomic analysis performed by liquid chromatography mass spectrometry (LCMS) on a hybrid LTQ Orbitrap Velos mass spectrometer; carbonylation assay to determine degree of oxidative stress was performed additionally to classical WHO sperm count criteria.
Results: A total of 2,489 proteins were identified from seminal plasma, which represents the highest number of unique proteins identified to date. Twenty-four proteins were determined as ≥1.5-fold upregulated in the infertile iOAT males as compared to the fertile controls; and 27 proteins from iOAT patients only, were identified as common across all analyses. Only 5 of the proteins were shared between these two groups.
Conclusion: A panel of 46 proteins were identified in patients with iOAT that are potential candidates in understanding the aetiology of OAT due to oxidative stress.

UP.296
Association between Serum Leptin Level and Sexual Behavior in Psychologically Stressed Male Rats
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Introduction and Objectives: Chronic psychological stress has been linked to a number of negative health consequences, including effects on the cardiovascular, endocrine, immune, and reproductive systems. Recently it was reported that despite a decrease in both body weight gain and adipose tissue weight, chronic restraint stress evoked low-grade inflammation in murine adipose tissue, similar to that seen in metabolic syndrome. This inflammatory change involved the induction of proinflammatory adipokines and a decrease in adiponectin. Leptin, a protein hormone produced by adipose tissue, plays a role in regulating energy intake and expenditure, and facilitating sexual behavior. The aim of this study was to investigate the association between serum leptin level and sexual behavior in psychologically stressed male rats.
Materials and Methods: Adult male Wistar-Kyoto rats were divided into 2 groups: a control group (n=16) and a psychological stress loading group (PS, n=16). The PS rats were exposed to psychological stress for 2 hours per day for 10 consecutive days, and the control rats were exposed to clean and empty cages (sham stress) for 2 hours per day for 10 consecutive days. Psychological stress was induced by the communication box. After the last stress loading, their copulatory behavior with receptive females was tested. During the test, the mount latency, intromission latency, and ejaculation latency were recorded. Prolonged latencies show sexual behavior to be reduced. Immediately after the copulation test, blood samples were collected and serum leptin, corticosterone, total testosterone, free testosterone, LH, FSH and estradiol levels were determined.
Results: The PS rats had significantly longer latencies, lower leptin level, and higher corticosterone level than did the control rats ($p<0.01$, 0.001 and 0.019, respectively). There was a significant negative correlation between latencies and serum leptin level.
Conclusion: These results show that psychologically suppressed masculine sexual behavior in rats could be associated with a decreased serum leptin level caused by stress-induced adipose tissue dysfunction.

UP.297
Decline of Intracavernous Pressure and NO-cGMP Activity of Penile Tissues in a Rat Model of Metabolic Syndrome
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Introduction and Objectives: Recently, metabolic syndrome has been considered as one of the risk factors closely associated with erectile dysfunction. With this background, we evaluated the change of intracavernous pressure (ICP) and nitric oxide (NO)-cyclic guanosine mono-phosphate (cGMP) activity of penile tissues in a rat model of metabolic syndrome.
Materials and Methods: We used male spontaneous hypertensive rat (SHR)s as an experimental (n=10), sham control group (n=10) and Wistar-Kyoto rats as a control group (n=10). In order to induce metabolic syndrome, SHRs of experimental group were fed with a high fat diet, whereas rats of the other groups were fed with a normal fat diet. After 12 weeks, all groups were checked for body weight, systolic blood pressure and various biochemical parameters. To investigate penile erection, the ICP, mean arterial pressure (MAP) and cGMP level were recorded in all groups. We analyzed the distribution of NOS by immunohistochemical staining and the expressions of nNOS and eNOS in the isolated corpus cavernosum were measured by Western blotting.
Results: In the experimental group, the ICP/MAP ratio was 22.8±7.8% and

markedly decreased more than the other groups in statistics. Also, the cGMP level of the experimental group was remarkably lower than the other groups. Immunohistochemical staining for NOS showed that eNOS and nNOS were stained as a brown color. Compared with the other groups, the NOS activities of the experimental group were significantly decreased and the penile expression rate of nNOS and eNOS were also the same results.
Conclusion: These results indicate that metabolic syndrome is harmful to erectile function and leads to decline of ICP and NO-cGMP activity of penile tissues in a rat model of metabolic syndrome.

UP.298
Evaluation of Sexual Function in Female Post Cystectomy Patients Using Current HRQOL Tools
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Introduction and Objectives: To assess whether bladder shape shown by cystography and compliance can influence the result of treatment by BTX-A, in neurogenic detrusor overactivity (NDO) refractory to anticholinergics.
Materials and Methods: They evaluated 39 patients with spinal cord injuries. They emptied their bladder by clear intermittent catheterization, presented urinary incontinence due to overactivity, despite using high doses of anticholinergics and were treated by BTX-A (300 U). Were performed urodynamic, ultrasonography of the kidneys and urinary tract and cystography. Follow-up consisted of urodynamic and outpatient consultation one month after and the clinical outcome was evaluated through outpatient consultations. The treatment was considered effective if a patient sustained 4 months without incontinence. Using cystography, the outcome was evaluated in relation to the bladder shape, bladder capacity and diverticula presence. Data were evaluated using the following urodynamic parameters: maximum cystometric capacity, maximum detrusor pressure, reflex volume and bladder compliance.
Results: There were 27 patients (69%) that became continents. At the four week follow-up, urodynamic revealed increases in reflex volume, cystometric capacity and decreased amplitude of detrusor overactivity. There was no statistical difference in urodynamic parameters: maximum cystometric capacity ($p = 0.920$), detrusor overactivity ($p = 0.989$), reflex volume ($p = 0.932$) between the group who showed improvement and those who remained incontinent. However, the baseline compliance was higher in patients with good response ($p = 0.032$). An absence of diverticula occurred in 83% of patients with effective results. Additionally, the presence of a large number of diverticula was found in 80% of patients with unsatisfactory outcomes, and together these results demonstrate an association between the number of diverticula and the quality of results ($p < 0.001$). Rounded bladder presented good results in 95% of cases while "pyriform" and "pine tree" shape bladders only in 20% ($p<0,001$).
Conclusion: We observed that rounded bladder without diverticula was more likely to show improvement after the procedure, "pyriform" and "pine-tree-shaped" bladders with a large number of diverticula were more likely to show unsatisfactory outcomes. The compliance was higher in those with good response.

UP.299
Correlation of Results of Visual Sexual Stimulation Test and Penile Color Doppler Ultrasonography Performed for Erectile Dysfunction
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Introduction and Objectives: The purpose of this study was to identify the correlations between the Visual Sexual Stimulation Test (VSST) and Penile Color Doppler Ultrasonography (PCD US) in patients who presented to our clinic with complaints of erectile dysfunction.
Materials and Methods: One hundred ten patients who presented to our clinic with erectile dysfunction between July 2011 and December 2012 were included in the study. First, VSST was performed on the patients, and 40 patients with normal results were recommended for a psychiatric evaluation and a low dose of Phosphodiesterase-5 inhibitors (PDE-5). In 70 patients, VSST was repeated with sildenafil. Erections measuring less than 60% basal and 40% distal, and erections lasting for less than three minutes basal and two minutes distal, and an increase in circumference of less than 3 centimeters at the basal and 2 centimeters at the distal part of the penis were evaluated as an insufficient response in VSST. Patients with insufficient or no responses to VSST were referred for PCD US.
Results: PCD US results were normal in 16 (51.6%) of the 31 patients (mean age: 49.03 years) who had an insufficient response to VSST, while 13 patients had venous insufficiency and 2 had arterial insufficiency (48.4%). In 17 patients with no response to VSST (mean age: 47.52 years), PCD US results were normal in 6 patients (35%), whereas 8 patients had venous insufficiency and 3 had arterial insufficiency (64.7%).
Conclusion: Almost 2/3 of patients with no response to VSST had pathologic results in PCD US. VSST might be a good indicator to evaluate the pathology detected by PCD US, especially in the group of patients with no response.

UP.300
Association between Vascular Evaluation and the Hardness of the Penis in Patients with ED
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Introduction and Objectives: Many erectile dysfunction (ED) cases are attributed to vascular endothelial dysfunction and impaired blood flow due to arteriosclerotic changes. In our study, we clinically examined the association among the erection hardness score (EHS), PWV, and the presence of carotid artery plaques, by dividing the patients into 2 groups based on the EHS.
Materials and Methods: The study involved 60 patients who had a medical examination in our hospital with the chief complaint of ED. Based on the history at the first visit, 22 of the 60 patients were categorized into the EHS 3-4 group and the remaining 38 into the EHS 0-2 group. The relevant data of the two groups were retrospectively analyzed. The patients ranged in age from 26 to 60 years (median: 45 years) in the EHS 3-4 group and from 34 to 75 years (median: 55 years) in the EHS 0-2 group.
Results: The values obtained using PWV were significantly higher in the EHS 0-2 group than in the EHS 3-4 group ($P = 0.056$). In consideration for error in age, the values (PWV at the first visit) - (reference PWV by age) were significantly higher in the EHS 0-2 group than in the EHS 3-4 group ($P = 0.028$). EHS 0-2 group also showed a higher rate of plaques by carotid ultrasound (63.1%).
Conclusion: Our study revealed that patients with lower EHS score at the first visit had higher PWV and were more

likely to have carotid artery plaques, and therefore, a high possibility of organic ED. While ED has occasionally been described as an early risk marker for the onset of cardiovascular events in various literature, our study indicates that the hardness of the penis can be an easier, clearer and more sensitive index.

UP.301

Analysis of Correlation between the National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI) and Premature Ejaculation Diagnostic Tool (PEDT) Among Korean Males in their 40-50's

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Introduction and Objectives: Analyzed the correlation between the National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI) and Premature Ejaculation Diagnostic Tool (PEDT) from questionnaires among Korean males in their 40-50's.
Materials and Methods: From September 2011 to December 2012, we conducted a survey targeting 319 Korean male who were had medical examinations in National Police Hospital, Using NIH-CPSI and PEDT. After explaining about the content of NIH-CPSI and PEDT, the paper was checked by volunteers in person, and then we collected it. The subjects were limited to Korean males in their 40's-50's. We analyzed the collected questionnaires.
Results: An average age of 319 volunteers was 50.8 years old (40-59), and an average of NIH-CPSI total score was 8.6±6.2. An average of PEDT total score was 7.7±5.0. Among total volunteers, 28 persons were chronic prostatitis-like symptom patients (8.8%). There were significant differences in the prevalence of premature ejaculation and premature ejaculation on PEDT statistically between persons with chronic prostatitis-like symptom (82%) and without (37.5%). In the same manner, the prevalence of premature ejaculation and premature ejaculation was higher in moderate and severe symptom groups than mild symptom groups by symptom scale score (pain plus voiding score) and total score of NIH-CPSI (mild: 38.2%, moderate/severe: 59.6% by Symptom scale score and mild: 36.7%, moderate/severe: 65.4% by total score). And by univariate and multivariate analyses, presence or absence of chronic prostatitis-like symptom and classification according to NIH-CPSI total score were independent predictive factors of the prevalence of premature ejaculation and premature ejaculation on PEDT.
Conclusion: There were significant statistic relationships between NIH-CPSI and PEDT in Korean males in their 40-50's having chronic prostatitis-like symptom or classified moderate and severe symptom groups by NIH-CPSI total score.

UP.302

Is the Androgen Deficiency of Aging Men (ADAM) Questionnaire Useful for the Screening of Partial Androgenic Deficiency of Aging Males

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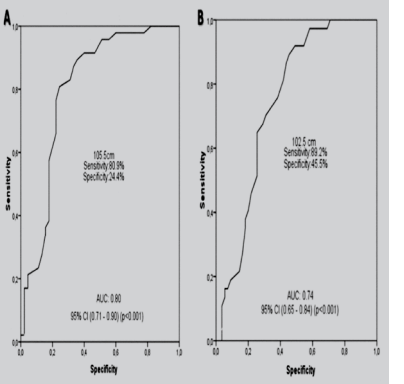
Introduction and Objectives: Androgen serum level significantly decreases with age, causing quality of life impairment. The disorder is defined as PADAM (Partial Androgen Deficiency of Aging Men).
Materials and Methods: The aim of this study is to evaluate PADAM screening tools, and we try to find the prevalence of this disorder in the healthy adult male population. This was a study of 192 men aged 40 years or more in the Belgrade region who were surveyed with Androgen Deficiency of Aging Men (ADAM) questionnaire. The serum determination of testosterone and SHGB was also done. PADAM was present if 1 or 7 or any other 3 questions of the ADAM were positive. Serum testosterone below 12 mol/L was the lower value of the normal range.
Results: A total of 111 men (57.8%) were found that have a possible PADAM according to ADAM questionnaire. Serum testosterone level was from 8.1 to 11.5 nmol/L in men aged 40 to 59 years. In the group over 72 years of age, serum testosterone was from 4.5 to 9.2nmo/L. Statistical evaluation showed no statistical significance (r=1.2; p=0.07). In this age group, SHGB significantly raised from 30 to 53 nmol/L; p<0.01. Overall available testosterone confirmed PADAM in 52 men (30%). The ADAM tool rendered an 83.3% sensitivity and 18.6% specificity in detection of PADAM. Decreased sexual desire (Figure 1) was a better predictor of hypogonadism than the complete questionnaire (57.4% sensitivity, 61% specificity).
Conclusion: Our study group of 192 men aged over 40 years showed, in accordance to serum testosterone, that prevalence of PADAM was higher than we expected. This suggests that ADAM questionnaire rendered a lower diagnostic efficiency. Clinically the PADAM should be suspected when symptoms of sexual dysfunction are present.

UP.302, Figure 1.



UP.303

The Relationships between Salivary Testosterone, Serum Sex Hormones and Lower Urinary Tract Symptoms, Sexual Function in Patients with Benign Prostate Hyperplasia

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Introduction and Objectives: The objectives of this study were to investigate the relationships between salivary testosterone (Sa-T), serum sex hormones and lower urinary tract symptoms (LUTS), sexual function, and general health conditions in patients with benign prostate hyperplasia (BPH).
Materials and Methods: This study included 54 BPH patients (median 73 years old; range 50-88 years) who were treated with alpha-blocker monotherapy in our institute. They were evaluated by International Prostate Symptom Score (IPSS), Sexual Health Inventory for Men (SHIM), and 36-item Short-Form Healthy Survey (SF-36) questionnaire. Salivary testosterone (Sa-T), serum testosterone (T), free testosterone (free T), sex hormone-binding globulin (SHBG), and bioavailable testosterone levels (BAT) were analyzed.
Results: The mean prostate volume was 54.2 ml (range 30.0-150.0 ml). The mean IPSS score, and SHIM score were 18.1 (range 8-31), 7.02 (range 1-24), respectively. Salivary T, serum T, free T and BAT were 30.42±9.40 pg/ml, 3.99±1.26 ng/ml, 7.99±2.2 pg/ml, and 1.34±0.40 pg/ml, respectively. Salivary T significantly correlate with age (r=-0.484, p=0.0001), free T (r=0.601, p=0.0001), SHBG (r=-0.298, p=0.033) and BAT (r=0.672, p=0.0001), not total T (r=0.264, p=0.061). Salivary T did not correlate with IPSS (r=-0.88, p=0.538) and SHIM (r=0.077, p=0.589). Regarding SF-36, only one item (mental health) out of 8

question items significantly correlated with salivary T (r=-0.301, p=0.04).
Conclusion: Salivary T significantly correlated with free T and BAT. Salivary T did not correlate with LUTS and sexual function. However, interestingly, salivary T correlated with mental health of SF-36.

UP.304
Effect of Sildenafil Citrate on EHS in Sexually Active Subclinical Erectile Dysfunction Males with No Erection Complaints: Comparison of Mild and No Erectile Dysfunction
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Introduction and Objectives: To compare the effect of sildenafil citrate on erection hardness and sexual satisfaction of sexually active men with suboptimal erection (EHS grade 3) without erectile complaints between mild and no erectile dysfunction.
Materials and Methods: The prospective, open label study of 107 men aged more than 40 years old who were sexually active and never complaint of erectile difficulty was conducted. All patients have EHS grade 3. Patients were divided into two groups depend on IIEF-score as Group I: mild erectile dysfunction (IIEF score: 17-21) and Group II: no erectile dysfunction (IIEF score: 22-25). Patients received 4 tablets of 50 mg sildenafil citrate and were advised to have at least four sexual activities with sildenafil within 4 week of the study. At 4 week: EHS, IIEF-5, Global Assessment Questionnaire (GAQ) and side effect of sildenafil citrate were recorded. The score of each questionnaire was compared with pretreatment parameter between both groups.
Results: At 4 week, 42 patients (87.5%) of Group I and 55 patients (93.2%) of Group II answered the EHS from grade 3 to grade 4. Mean pretreatment IIEF-5 score were 18.6±0.70 and 22.30±0.50 of Group I and Group II, respectively (p<0.001). Of GAQ questionnaire, 45 patients (95.7%) of Group I and 56 patients (94.9%) of Group II answered "Yes" that was not significant different between both groups. The most common side effect was red face which was 20.8 % of Group I and 25.4 % of Group II.
Conclusion: High prevalence of suboptimal erectile dysfunction was found in men with no erectile complaints. Sildenafil citrate demonstrates the benefit for ideal and optimal goal of ED treatment in both mild and no erectile dysfunction of sexually active subclinical erectile dysfunction males with no erection complaints.

UP.305
Priapism in Children: A Comprehensive Review and Clinical Guideline
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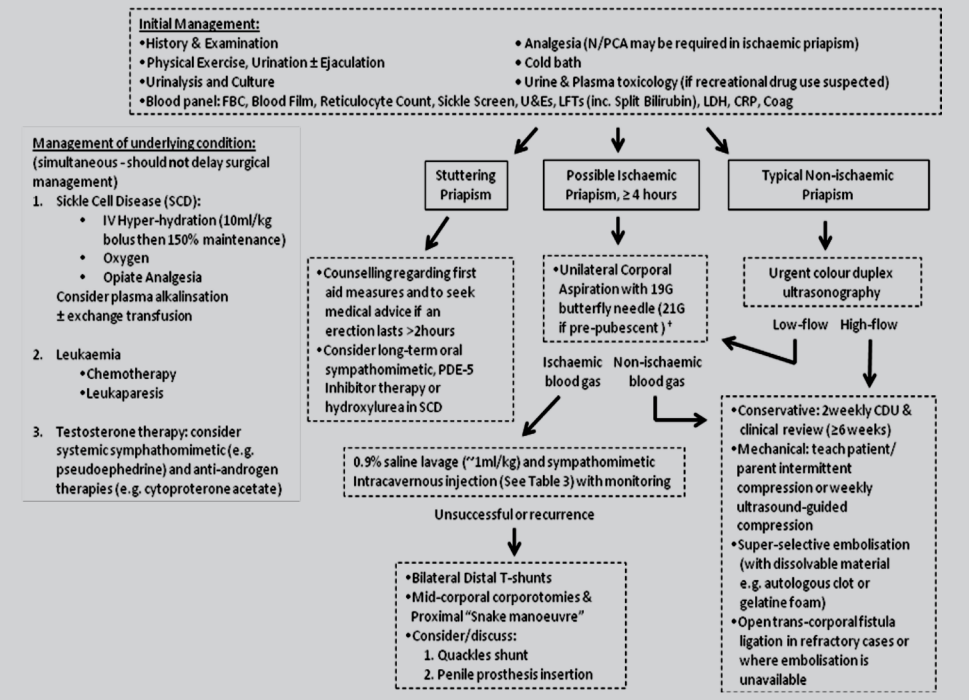
Introduction and Objectives: Paediatric priapism (PP), a prolonged penile erection lasting ≥4hours, is a rare childhood condition first described in 1876. There are no widely-accepted guidelines for its treatment.
Materials and Methods: We conducted a comprehensive review of the literature (1980-2012).
Results: Ischaemic priapism is the commonest type seen in children. Paediatric stuttering priapism is probably underrecognised and extremely difficult to manage. Fifty-five non-ischaemic PP cases and 18 neonatal priapism cases (aged ≤28days) are reported, which can usually be managed expectantly. Sickle cell disease (SCD) is the commonest cause (67%) of PP, 25% of whom are pre-pubertal. Leukaemia (11%), trauma (11%), idiopathic (11%) and drugs are other causes. We suggest an algorithm for the management of PP (Figure 1). Differences compared to guidelines for adults include the maximum volume of aspirated blood (7.5ml/kg in boys ≥1year), dosage and choice of sympathomimetic injection (Table 1), anaesthesia requirements for aspiration/injection (typically GA, which may be challenging in SCD but should not delay aspiration) and treatment success using perineal compression (Piesis sign) in non-ischaemic priapism. Acute penile prosthesis insertion and anti-androgen therapy are inappropriate in most children.
Conclusion: PP must be assessed urgently by experienced clinicians. Rapid resolution of ischaemic PP prevents permanent cavernosal structural damage, is associated with improved prognosis for potency later in life and may reduce sexual aversion behaviour. Stuttering priapism is particularly challenging in children. Non-ischaemic and neonatal priapism may typically be treated less urgently.

UP.305, Figure 1.



UP.305, Table 1.

Drug	Available preparations	Dilution	Age and aliquot	Further doses
Phenylephrine	10mg/ml (1%)	0.1ml add 4.9mls 0.9% Saline (200mcg/ml)	≥11years: 0.5ml	≤10 at 5-10 mins (≤1mg)
Epinephrine (Adrenaline)	1 in 10 000 (100mcg/ml)	1ml add 99mls 0.9% Saline (1 in 1 000 000 or 1mcg/ml)	≥11 years: 15 mls 3-11 years: 10 mls 0-2 years: 2.5-5mls†	≤4 at 10 mins
	1 in 1 000 (1mg/ml)	1ml in 1 litre 0.9% Saline (1 in 1 000 000 or 1mcg/ml)		
Etilefrine	10mg/ml (1%)	None	All ages: 0.5ml	≤2 at 10 mins

UP.306

High Uric Acid Serum Level as a Predictive Factor of Erectile Dysfunction (ED) in Coronary-Artery-Diseases (CAD)

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Introduction and Objectives: Elevated uric-acid serum level was previously introduced as a coronary-artery-diseases (CAD) risk factor and the relationship between erectile dysfunction (ED) and CAD has already been confirmed. This study was designed to evaluate the relationship between high uric-acid serum levels, ED and CAD in our center.

Materials and Methods: Seventy-five men with the mean age of 54±10.99 underwent coronary-artery angiography and filled-out the standard International Index of Erectile function 5 (IIEF5) questionnaire. Uric-acid, lipid-profile, testosterone, Sex-Hormone-Binding-Globulin (SHBG), dihydroepiandrosterone sulphate (DHEAS04) were measured in a central laboratory.

Results: There were 32 CAD and 43 normal angiography cases. In CAD patients, there were 5 (15%) severe and 5 (15%) moderate ED cases; in the normal-angiography group, 2 (4%) and 4 (9%) patients had severe and moderate ED, respectively. The relationship between CAD, DHEAS04 (0.001) and SHBG (0.004) was significant. Although there is a relationship between increased SHBG and ED, it was insignificant (P=0.08, 0.2). Correlations were found between uric-acid and Testosterone (P=0.01; -0.298), SHBG (P=0.004; -338) and DHEAS04 (P=0.03; 0.253). The relation was observed in both groups. The strongest correlation was found between uric-acid and SHBG in the CAD group.

Conclusion: Although some relation between high uric acid level, androgens, CAD and ED in our study predicted, considering the correlational or causal relationships of these parameters, needs further survey with a large sample size.

UP.307

Urologist Practice Patterns in the Management of Premature Ejaculation in Korea: A Nationwide Survey in 2012

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Introduction and Objectives: Premature ejaculation (PE) is the most prevalent male ejaculatory disorder and may have a negative impact on quality of life (QoL) in male population. Although PE has become a topic of increasing interest in sexual medicine, there is no baseline data about the "real-practice" patterns of urologist in the management of the patients with PE in Korea. We endeavored to determine how contemporary urologists in the Korea manage PE.

Materials and Methods: A probability sample was taken from the Korean Urological Association Registry of Physicians, and a specially designed questionnaire was e-mailed to the randomly selective 2421 urologists in Korea. The survey explored practice characteristics and attitudes, as well as diagnosis and treatment patterns, for the management of PE.

Results: Responses were received from 527 (21.8%) practicing urologist. Most urologists (44.4%) treated less than 3 PE patients per week while only 2.7% of urologists saw more than 20 PE patients. For the diagnosis of PE, most respondents consider a multidimensional construct by using various diagnostic tools and concepts; intravaginal ejaculatory latency time (IELT) (63.4%), presence of inability to delay ejaculation (61.7%), problem of relationship with sexual partner (43.8%), and the questionnaire such as PE diagnostic tool (PEDT) (42.5%) and perceptional self-diagnosis by patient's himself (23.5%). Selective serotonin receptor inhibitor (SSRIs) was the preferred possible medical management for 91.5% of respondents. Topical anesthesia (54.7%), PDE-5 inhibitors (40.2%), tricyclic antidepressant (TCA) (27.3%) and alpha blockers (7.6%) were also favored by urologists as a possible medical treatment. More than half of the respondents (51.2%) had the positive perception about the role of surgical treatment in PE patients such as selective dorsal nerve resection (SDNR) while only 16.9% of respondents had negative perception. The majority of urologists (72.9%) performed SDRN in their own clinic and the 53.9% of the respondents reported that the patients satisfied the surgical outcomes in most case.

Conclusion: The majority of our respondents diagnose PE multidimensional approach by various diagnostic tools. Most urologists believed that the medical treatment with SSRIs is essential and effective in the management of PE patients, and at the same time, surgical treatment such as SDNR also had a significant role in the fields of the treatment options of PE patients.

UP.308

Evaluation of Etiological Factors in Patients Who Underwent Penile Prosthesis Implantation over the Last Five Years

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Introduction and Objectives: Penile prosthesis implantation for erectile dysfunction (ED) has been performed at our clinic since 1996. In this study, we aimed to show the factors in the etiology of the patients who underwent penile prosthesis implantation, starting from the year 2008, when the hospital automation system was implemented.
Materials and Methods: Between January 2008 and February 2013, penile prosthesis implantation was performed in sixty patients with ED at our clinic. Age, factors in the etiology, and type of implanted prosthesis were recorded.
Results: The mean age of the patients was 54.13 years. A malleable prosthesis was implanted in 58 patients and an inflatable penile prosthese with two pieces was implanted in 2 patients. The etiological factors of the patients included diabetes mellitus in 25 cases (41.6%), coronary artery disease in 10 cases (16.6%), hypertension in 7 cases (11.6%), chronic renal insufficiency in 6 cases (10%), performed radical prostatectomy in 6 cases (10%), and antidepressant drug usage in 4 cases (6.6%). One patient each with malleable penile prosthesis and inflatable two-piece prosthesis had postoperative wound infection. Penile prosthesis extraction was performed in these two patients with diabetes mellitus who were irresponsive to anti-biotherapy and surgical debridement.
Conclusion: Diabetes mellitus, which was the most common etiological factor in this study with a rate of 41.6%, is a progressive systemic disease that has an effect on erectile dysfunction with its neurogenic and vasculogenic effects. Diabetes mellitus may cause erection problems and also penile prosthesis extraction due to infection in cases of penile prosthesis implantation.

UP.309
Malleable Prosthesis Insertion through Subcoronal Incision May Be Prone to Incorrect Measurement and Temporary Hypoesthesia of the Glans
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Introduction and Objectives: Penile prosthesis implantation has the highest patient satisfaction among treatment choices for erectile dysfunction. Malleable penile implants are cost effective and yield acceptable patient satisfaction in selected cases. Latest malleable penile implants have been described as best implanted through a subcoronal incision because of their exceptional construction. The objective of this study was to evaluate the outcome of malleable penile prostheses and type of incision used in surgery.
Materials and Methods: Thirty-four patients were implanted with malleable penile implants in between October 2011 to June 2012. All prostheses were placed via subcoronal incision. Patients were followed up to 12 (3-12) months.
Results: Postoperatively, fourteen (41%) patients complained about numbness of the glans penis. Three patients (8.8%) and five patients (14.7%) complained of annoying cracking sound during intercourse and floppy glans penis due to short cylinders, respectively. Two patients (5.88%) were also bothered by inadequate girth. We removed malleable implants via penoscrotal incision in ten cases, because of too short cylinders, noisy prosthesis and poor girth in five, three and two patients respectively. All were replaced with inflatable penile prostheses and gained 1.5-3 cm in length of cylinder. All patients were satisfied with the replacement prosthesis. The numbness of the glans resolved in all patients.
Conclusion: In our study, subcoronal placement of the malleable prosthesis had high rate of inaccurate measurement of the corpora resulting in placement of too short and too narrow cylinders. Although the glans penis sensation returned back, temporary hypoesthesia is another reason to abandon this surgical incision.

UP.310
Semi-Rigid Penile Prosthesis in the Surgical Treatment of Peyronie's Disease: Patient Satisfaction and Long-Term Follow-Up
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Introduction and Objectives: Peyronie's disease is a condition of middle aged men and frequently accompanied by erectile dysfunction (ED) which was attributed to penile deformity, vascular pathology and psychological components. The implantation of semi-rigid penile prosthesis allows for these patients to undergo a simple procedure aimed at correction both penile deformity and erectile dysfunction. Aim of this study was to investigate surgical and clinical outcomes and patient satisfaction rate at long-term follow-up after semi-rigid penile prosthesis implantation in men with Peyronie's disease and ED.
Materials and Methods: A total of 66 patients mean age 49.2 (30-76) underwent semi-rigid penile prosthesis implantation between 1995-2006. Genesis (Coloplast) was used for implantation. Penile prosthesis were implanted in a standart manner by using penoscrotal approach without using any graft and remodeling technique. In all patients dilatation of corpora were performed without any difficulty and straightening of the penis was achieved. A retrospective review of clinical database and prospective telephone survey were conducted in all patients.
Results: The mean follow-up was 9.7 years (6 to 17). There was not any clinical infection and complication during follow-up period. There are 59 patients sexually active at the time of the review. None of the patients reported residual curvature. The overall patient satisfaction was 82% (54 patients). Primary reasons for dissatisfaction were decreased penile length and prosthesis problems.
Conclusion: Based on our results semi-rigid prosthesis implantation is effective and easy procedure for treatment of men with Peyronie's disease and ED without any complication and with high patient satisfaction rate in long-term follow-up period.

UP.311
Urgent ESWL in the Treatment of Symptomatic Ureteral Stones-Extinct Procedure or Not?
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Introduction and Objectives: To evaluate efficacy and role of urgent extracorporeal shock wave lithotripsy in the treatment of symptomatic ureteral stones.
Materials and Methods: Retrospective study which was conducted between July 2007 to July 2011 among 342 patients treated with urgent ESWL treatment of 1433 patients treated with ESWL treatment at Urology Clinics of Clinical Center University of Sarajevo. Renal colic was diagnosed on a clinical basis, by ultrasound examination, and by plain x-ray of abdomen. The success rate of ESWL was defined by fragmentation and spontaneous elimination after ESWL treatment. Failed was defined as a need for auxiliary procedures.
Results: Mean age of patients was 46.6 years (range 22-65). Male/female ratio was 197/145. Mean stone size was 7.90 mm. Fragmentation after a single session was complete in 180 patients, incomplete fragmentation in 87, and absent in 75 patients. Patients presenting with

incomplete fragmentation underwent second (n=87) or even third session (n=52). Of the 75 patients where initial ESWL treatment had no impact on the stone, some underwent a second (n=48) or even a third session (n=33) without success. Of these patients, ureteroscopy was performed in 12 cases, six patients had spontaneous passage of the stones, and ureterolithotomy was performed for 19 patients with impacted stones. The DJ stent was placed for 18 patients due to fever and impossibility to manage the patients medically for the persistent pain. **Conclusion:** ESWL is a safe, effective, noninvasive method in the treatment of ureteral stones. Stone-free rate for stones in the upper and mid-ureter is above 80%. Stone size may be the main predictive factor for re-treatment. Even complete elimination of the stones is very hard to achieve after single ESWL session - real role of the ESWL treatment for the acute urinary obstruction is to provide ureteral canalization and recover renal function.

UP.312

3-Aminobenzamide (3-AB) Treatment May Have Protective Effect on Kidney Damage Due to SWL

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Introduction and Objectives: Kidney damage may occur during the body extracorporeal shock wave lithotripsy (SWL) process. A few of the known mechanisms of such damage are inflammation, release of reactive oxygen species and apoptosis due to excessive use of energy. Acute and chronic inflammation of Poly (ADP ribose) polymerase (PARP) inhibition, apoptosis inhibitory effect was shown. 3-AB is a PARP inhibitor. We have investigated the effect of 3-AB against the prevention of kidney damage due to SWT. **Materials and Methods:** Sprague Dowley type 24 rats were divided into three equal groups after right nephrectomy as: control group, SWL performed and 3-AB treatment administered along with SWT. SWT application to the left kidney was performed with 2000 pulses and a total of 15 joules of energy. Tissues except the kidney were preserved by circle of protection. 3-AB was applied intraperitoneally, 20 mg/kg/day dose twice a day. Treatment was started 1 hour before SWT and was repeated twice a day for 3 days. Nephrectomy was performed after the rats were sacrificed and histopathological changes were examined. Glomerular, tubular, interstitial and vascular damage was scored from 0 to 4. Total scores were compared between groups. **Results:** Vascular damage was not observed in any group. In the control group for glomerular, tubular and interstitial changes (congestion, inflammation, necrosis, edema, vascular, tubular degeneration), the total median score was 5 (3-8), while the score of the SWL group was 18 (10-23), and in SWL + 3-AB treatment group was calculated as 13 (4-17). Histopathological changes were statistically different between the three groups ($p>0.05$). **Conclusion:** Extracorporeal shock wave lithotripsy treatment, leads to histopathological changes in the kidney. 3-aminobenzamide treatment has a protective effect against histopathological changes occurring in the kidney. 3-aminobenzamide treatment can be used as a hedge against morphological and functional changes due to SWL.

UP.313

The Effects of SWL and 3-Aminobenzamide (3-AB) on the Levels of Serum Neopterın in Experimental Rat Model

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Introduction and Objectives: Kidney damage may occur during the body extracorporeal shock wave lithotripsy (SWL) process. A few of the known mechanisms of such damage are inflammation, release of reactive oxygen species and apoptosis due to excessive use of energy. Acute and chronic inflammation of Poly (ADP ribose) polymerase (PARP) inhibition, apoptosis inhibitory effect was shown. 3-AB is a PARP inhibitor. Neopterin serves as a marker of cellular immune system and is synthesised by macrophages and monocytes upon stimulation of Interferon-gamma (IFN-). Blood neopterin level is the sign of acute infection. Neopterin is also an indicator of reactive oxygen species in blood and decreases with the levels of reactive oxygen species. We have investigated changes in the levels of neopterin on the rats due to SWL treatment. **Materials and Methods:** Sprague Dowley type 24 rats were divided into three equal groups after right nephrectomy as: control group, SWT performed and 3-AB treatment administered along with SWT. SWT application to the left kidney was performed with 2000 pulses and a total of 15 joules of energy. Tissues except the kidney were preserved by circle of protection. 3-AB was applied intraperitoneally, 20 mg/kg/day dose twice a day. Treatment was started 1 hour before SWT and was repeated for 3 days, twice a day. Nephrectomy was performed after the rats were sacrificed and blood samples were taken. Neopterin levels were evaluated. **Results:** In the control group the neopterin level was 6.000±0.737. The level of neopterin in the SWT group was 4.900±0.624, and in SWT + 3-AB treatment group it was measured as 5.500±0.524. Changes in the levels of neopterin were statistically different between the three groups ($p<0.05$). **Conclusion:** Extracorporeal shock wave lithotripsy treatment leads to changes in the kidney due to oxidative stress. 3-aminobenzamide treatment has a protective effect against the changes occurring in the kidney. The decrease in the level of neopterin after SWL treatment and increasing by the use of 3-AB suggests that oxidative stress may not be connected to the cellular immune response. We considered that neopterin is not useful in measuring the stress due to SWL treatment.

UP.314

3-Aminobenzamide (3-AB) Treatment Effects on the Serum MDA Levels after SWL

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Introduction and Objectives: Kidney damage may occur during the body extracorporeal shock wave lithotripsy (SWL) process. One of the known mechanisms of such damage is inflammation, release of reactive oxygen species and apoptosis due to excessive energy use. Apoptosis inhibitory effect of Acute and chronic inflammation of Poly (ADP ribose) polymerase (PARP) inhibition was shown. 3-AB is a PARP inhibitor. We have investigated the effect of 3-AB against the prevention of kidney damage due to SWL.
Materials and Methods: Sprague Dowley type 24 rats were divided into three equal groups after right nephrectomy as: control group, SWT performed and 3-AB treatment administered along with SWL. SWL application to the left kidney was performed with 2000 pulses and a total of 15 joules of energy. Tissues except the kidney were preserved by circle of protection. 3-AB was applied intraperitoneally, 20 mg/kg/day dose twice a day. Treatment was started 1 hour before SWL and was repeated for 3 days, twice a day. The rats were sacrificed before nephrectomy and blood samples were taken after. Marker of oxidative stress, malondialdehyde (MDA) was measured.
Results: Serum MDA level was determined as 0247 ± 0238 for the group with no treatment. Oxidative stress was observed in the SWL group and MDA level was determined as 1130 ± 0433. Oxidative stress was reduced in 3-AB administered group and the MDA level was calculated as 0.171 ± 0.363. The groups were statistically different in terms of MDA changes ($p<0.05$).
Conclusion: Extracorporeal shock wave lithotripsy treatment leads to changes in the kidney caused by oxidative stress. 3-aminobenzamide treatment has a protective effect against the changes occurring in the kidney. 3-aminobenzamide treatment can be used as a hedge against oxidative stress caused by SWL.

UP.315

The Effects of SWL and Antioxidants on the Levels of Serum Alkaline Phospatase in Experimental Rat Model

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Introduction and Objectives: Kidney damage may occur during the body extracorporeal shock wave lithotripsy (SWL) process. One of the known mechanisms of such damage is oxidative stress. We investigated the effects of antioxidants like iNOS inhibitor 1400W, valproic acid, 3-aminobenzamide (3-AB) and ozone treatment on serum alkaline phosphatase levels.
Materials and Methods: Sprague Dowley type 24 rats were divided into three equal groups after right nephrectomy as: control group, SWT performed and antioxidant treatment administered along with SWL. SWL application to the left kidney was performed with 2000 pulses and a total of 15 joules of energy. Tissues except the kidney were preserved by circle of protection. Antioxidant therapies were applied twice a day, intraperitoneally. Treatment was started 1 hour before SWL and was repeated for 3 days. The rats were sacrificed before nephrectomy and blood samples were taken. Serum alkaline phosphatase levels were measured.
Results: Serum alkaline phosphatase level was 99.125±34.430 for the group with no treatment. The level of alkaline phosphatase in the SWT group was 317.000±64.293 and in SWT + antioxidant treatment group it was measured as 179.500±39.020. Changes in the levels of alkaline phosphatase were statistically different between the three groups ($p<0.05$).
Conclusion: Extracorporeal shock wave lithotripsy treatment leads to changes in the kidney caused by oxidative stress, alkaline phosphatase levels are also increased. Antioxidant agents like iNOS inhibitor 1400W, valproic acid, 3-aminobenzamide (3-AB) and ozone treatment have been observed to reduce the level of serum alkaline phosphatase. Detailed studies on SWL, alkaline phosphatase and antioxidant therapies are needed.

UP.316

Resistive Index as Age Depend Parameter and Changes in Renal Perfusion after Extracorporeal Shockwave Lithotripsy

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Introduction and Objectives: ESWL is an effective and minimal invasive treatment for most urinary stones, but also with significant acute renal injuries and long-term complications. Effects on renal vasculature can be evaluated by color Doppler ultrasonography measuring renal resistive index (RI). This prospective study aimed to determine the age determined changes in renal resistive index as parameter of renal perfusion.
Materials and Methods: Total of 41 patients, both male and female, age ranged from 22-58 years (average 42.7years) undergoing ESWL for renal stones, size 6-18mm, were included in this study. Patients were divided in two groups: Group I (N=21) received 2000SW-s; 0-2 units (0,5IU on each 500SW-s). Group II (N=24) received 4000SW-s; kV 0-4units (0,5IU on each 500SW-s). Changes in RI values as a function of time have been measured in the two groups. For the groups of 29 patients aged 29 to 55 years and second group 12 patients older than 55 years. RI has been measured before, immediately after, the second and seventh day after ESWL-treatment on treated kidney and contralateral non-treated kidney.
Results: In the group of patients who were treated with 2000 SW, RI values increased significantly ($p<0.044$) but RI significantly increase ($p<0.007$) in the group of patients who were treated with 4000 SW. RI value for the untreated contralateral kidney in the first group did not show significant changes, while significant increases were in the second group (4000SW) ($p<0.042$). RI value of the contralateral kidney for both age groups showed significant changes just the first day after treatment $p<0033$ and $p<0.025$, while the second and seventh day RI value decreased. In patients younger than 55 years RI significantly increased first day ($p<0.001$) and second day ($p<0.007$), and were insignificant seventh day. For patients older than 55 years increase in RI is highly significant in all timelines.

Conclusion: This data support the idea that the number of delivered SW-s and used kV is in direct correlation with age of patients and RI changes measurements as parameter of renal vascular changes after ESWL treatment. Measurement of RI with Doppler ultrasound techniques might provide useful information for the clinical diagnosis of renal damage.

UP.317

Aldosterone Induces Superoxide Generation via Rac1 Activation and Its Signaling Pathway Links to Calcium Oxalate Crystals-mediated Oxidative Cell Injury

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Introduction and Objectives: Oxalate-induced oxidative renal cell injury is one of the major mechanisms implicated in calcium oxalate nucleation, aggregation and growth of renal stone. And oxalate-induced NADPH oxidase-derived free radicals play a significant role in renal injury. Reactive oxygen species (ROS) are produced during the interactions between the calcium oxalate crystals and renal epithelial cells and are responsible for the various celluar responses by the activation of NADPH oxidase (Nox). Oxalate-induced oxidative stress also activates the renin-angiotensin system. In vitro experiments provide that aldosterone contributes to Nox activation via mineralocorticoid receptor (MR) in cultured vascular smooth muscle cells, glomerular mesangial cells and renal fibroblasts. Our study was examined in renal epithelial cell lines.
Materials and Methods: Normal rat kidney epithelial cell line (NRK-52E) and human renal epithelial cell line (HK-2) were maintained at 37˚C in a 5% CO2 air atmosphere incubator. We determined superoxide levels by dihydroethidium (DHE) using a confocal microscope. We measured all cellular stain intensities using imageJ software and evaluated superoxide anion levels. Cells were incubated on Lab-TekTM II chambered coverglass with or without treatment of spironolactone (10-5 M), pp2 (10-5 M) and DPI (10-5 M) for 90 min and stimulated with or without treatment of aldosterone (10-7 M) and COM crystals (67 μg/cm^2). The GTP-bound form of active Rac1 was measured by the Rac1 activation assay biochem kit.
Results: We demonstrated that aldosterone (10-7 M) activates not only Nox but also small G protein Rac (Rac1) expression in NRK52E cells. Furthermore, MR blocker; spironolactone inhibited Nox and Rac1 expressions. Increase of Nox and Rac1 expressions derived from exposure of renal epithelial cells to calcium oxalate crystals were also provided in HK-2 cells, and increased Rac1 expression were significantly attenuated by treatment of Src inhibitor; PP2 and spironolactone. The mRNA expression levels of Rac1 and MR were significantly inhibited by spironolactone and PP2.
Conclusion: COM crystals exposure induced ROS generation in renal epithelial cells via Rac1 activation as well as aldosterone-induced NADPH oxidase activation. It is concerned with lithogenesis and COM crystals-induced NADPH oxidase activation might be related to both MR and Rac1 without aldosterone.

UP.318

Stone Composition of the Renal Calculi in Southern Iran

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Introduction and Objectives: Nephrolithiasis is a common health problem in Iran, especially in Southern area. Our country located on the stone belt, but, until now no study has been performed on stone composition in our region. We aimed to determine the composition of the renal stones in Southern Iran and compare them with international reports.
Materials and Methods: Between March 2009 and September 2012, a total of 1934 patients, including 1327 men and 597 women, with nephrolithiasis treated. Mean patient age was 38 (2 to 92).Stone fragments were analyzed and the predominant part of stone composition was considered as the basis of classification.
Results: Calcium oxalate was the most common type of renal stone found in 1311 (67.7%) followed by uric acid in 536 (27.7%), Calcium phosphate in 36 (1.9%), struvite in 30 (1.6%), and cystine stones in 21 (1.1%) patients.
Conclusion: The main composition of the renal stones was calcium oxalate in southern Iran. This composition was more prevalent in younger patients. Analysis of renal stones is recommended for all patients with nephrolithiasis to better understand the mechanisms of lithogenesis. It might be more cost effective than complete, advanced metabolic evaluation.

UP.319

Correlations between Hounsfield Unit (HU) and 24-Hour Urinary Metabolites in Urinary Stone Patients

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Introduction and Objectives: Studies on the clinical application of the Hounsfield unit (HU) on non-contrast computerized tomography (CT) scans of urinary stone patients have recently been conducted. In this study, the HU level and metabolic test results of urinary stone patients were compared, and their correlation was investigated.
Materials and Methods: One hundred ninety-three urinary stone patients (124 male and 69 female) who underwent a non-contrast CT scan before their treatment and a metabolic test after their treatment were retrospectively analyzed. Their HU level was measured after a region of interest (ROI) was set with an area of 2.0±0.5 mm^2 that showed the highest contrast in the largest section of the urinary stone at the bone window setting (window width: 2,056; window level: 250).
Results: A total of 193 patients were composed of 124 male patients and 69 female patients. The HU level increased with the increase in the size of the urinary stone ($p < 0.001$). A mean HU level of calcium oxlate stones were 923.94± 359.05 and a mean HU level of is uric acid stones were 502.28±199.15, there were significantly difference ($p < 0.001$). The HU level showed a positive correlation with oxalic acid, which was one of the urinary metabolites in the 24-hour urine sample ($p = 0.019$). No other correlation with the urinary metabolites in the 24-hour urine sample (urine volume, pH, calcium, uric acid, phosphoric acid, citric acid, magnesium, and sodium) was observed ($p > 0.05$).
Conclusion: The HU level significantly differed according to the component of the urinary stones. In addition, the HU level showed a positive correlation with oxalic acid, which was one of the urinary metabolites 24-hour urine sample.

UP.320

A Pilot Study Comparing Emergency and Elective Extracorporeal Shock Wave Lithotripsy in the Treatment of Ureteric Calculi

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Introduction and Objectives: To compare efficacy of emergency and elective extracorporeal shock wave lithotripsy (ESWL) for ureteric stones.
Materials and Methods: We retrospectively compare outcomes of first time stone formers treated either with emergency ESWL (treatment within 72 hours) or routine ESWL treatment in our unit over the last one year. Study parameters included stone size, number and location, number of shock waves, energy and ESWL sessions required and failure rate (defined as the need for ureteroscopy to achieve stone free status).
Results: A total of 66 patients who had emergency ESWL (Group A) were studied and compared to 60 (sex and weight matched) patients (Group B) who underwent elective ESWL. Stone size and number of sessions were similar between the two groups (8mm vs 7.13mm, 1.77 vs 1.53 sessions). Stone location in the ureter was 18, 13 and 35 in upper, middle and lower part in group A compared to 25, 11 and 24 in group B, respectively. Average number of shockwaves (SW) and energy (J) used was 3962 SW and 5.71 J in Group A and 3836 SW and 5.11 J in Group B. These were not statistically significant. Failure rate was higher in group B (21.6% in Group B vs 16.6% in Group A).
Conclusion: Emergency ESWL is an effective treatment for obstructing ureteric stones and although numbers are small in this pilot study, appears to reduce the need for ureteroscopy to achieve stone free status. This has numerous potential benefits. Larger scale studies are needed to look at the role of emergency ESWL further.

UP.321

Treatment of Ureteral Stones at Fully Equipped Clinic: Which Devices to Use in Which Part of Ureter?

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Introduction and Objectives: New concept of treatment of ureteral stones considers the use of non invasive/minimaly invasive devices: SWL, semirigid/rigid lithoclast or holmium laser with flexible ureterorenoscope (fURS). EAU, AUA protocols still do not clearly recommend which device should be used in which part of ureter, concerning safety, efficiency, invasiveness and cost benefit. With this study we would like to give a contribution to this definition.
Materials and Methods: During the period 2008-2012, 454 patients (pts) with ureteral stones have been treated at our Clinic. From 2008 we have been using SWL for destruction of ureteral stones in proximal part of ureter as well as Holmium laser. For middle part of ureter SWL, Holmium laser and rigid lithoclast were used, equally. Stones in distal part of ureter have been treated by rigid/semirigid pneumatic lithoclast.
Results: In 160, 74 and 220 of 454 pts ureteral stones were located in proximal, mid and distal ureter, respectively. SWL was carried out for 116/160 (72.5%) of proximal stones with destruction rate of 86.2% (100 pts) and stone free rate after 3 months of 77.5% (90 pts). Holmium laser lithotripsy has been done for 44/160 (27.5%) mostly after SWL as first procedure. Destruction rate was 93.1% (41 pts) and three were caught and destroyed in calices (success rate 100%). Mid ureter stones (74 pts) were treated with SWL (48 pts), HLL (10 pts) and Rigid URS (16 pts), with destruction rate of 60.4% (29 pts), 100% (10 pts) and 93.7% (15 pts), and stone free rate after 3 months 54.1% (26 pts), 100% (8 pts), 100% (16 pts), respectively. For distal ureter only rigid/semirigid URS has been used with destruction rate of 95.9% (211 pts) - 9 stones > 2 cm have been treated with open surgery. Auxiliary procedures were used in 19.8% (90 pts). Complications of endoscopic manipulation were seen in 5.9% (27/454).
Conclusion: All three procedures are very successful in treatment of ureteral stones. Due to their cost, invasiveness, complications, destruction rate and stone free rate we suggest that first choice for proximal ureter should be SWL and Holmium laser, with fURS as second. For mid ureter SWL is favorable due to its non-invasiveness but much more effective is Holmium laser with flexible URS. For distal ureter semirigid/rigid URS with pneumatic lithotripsy should be treatment of choice.

UP.322

Diagnostic accuracy for the differentiation between uric acid and non-uric acid urinary stones using dual-energy CT

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Introduction and Objectives: To prospectively investigate the diagnostic accuracy of dual-energy computed tomography (DECT) for the differentiation between uric acid (UA)-containing and non-UA-containing urinary stones in vivo.
Materials and Methods: DECT scans were performed in 222 patients with suspected urinary stone disease using a dual-source computed tomography (CT) scanner in the dual-energy mode with the tubes simultaneously operating at 80 and 140 kV. Urinary stones were classified as UA-containing or non-UA-containing based on CT number measurements and dual energy software analysis results. These stones were compared with the biochemical analysis results obtained by infrared spectrometry.
Results: DECT detected 168/222 patients (76%) with urinary stone disease. The software automatically mapped 163/168 (97%) stones. DECT failed to identify the chemical composition of five stones. All of them were tiny stones with a diameter smaller than 2 mm. In 53 patients, stones were sampled. Fifty out of 53 stones (94%) were non-UA-containing and three stones (6%) were UA-containing. The results of DECT software analyses were in agreement with stone analyses in 53/53 patients (100%).
Conclusion: DECT showed excellent accuracy in classifying urinary stone chemical composition between UA-containing and non-UA-containing urinary stones. However, five ureteral stones being less than 2 mm in size were unmapped in our study.

UP.323

Flexible Ureteroscopy with Holmium:YAG Laser Lithotripsy for Treatment of Renal Stones

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Introduction and Objectives: We evaluate the efficacy and safety of flexible ureteroscopy with holmium:YAG laser lithotripsy for treatment of renal stones and further stratify the efficacy by stone burden less than and greater than 20mm.
Materials and Methods: A total of 216

patients with renal stones underwent flexible ureteroscopy with holmium:YAG laser lithotripsy from November 2009 to January 2013. Mean stone diameter of the renal calculi was 18±5.2 mm (range 15 to 30). Of the 216 patients, 186 with primary renal stones (158 had history of failed SWL), 30 with secondary renal stones from retrograde migration of proximal ureteral stones during the holmium:YAG laser lithotripsy with a semirigid ureteroscope. Stone free status was determined by KUB plain film and/or renal ultrasound 2 weeks after the last procedure and was defined as the absence of fragments in the kidney or fragments < 3mm.
Results: A total of 66 (31%) patients had a ureteral stent in place before the procedure. The mean number of primary procedures was 1.3±0.3 (range 1-2). The overall stone-free rates after one and two procedures were 81.2% and 91.7%, respectively. The stone-free rates for patients with a stone burden less than and greater than 20mm were 97.5% and 83.9%, respectively. The overall complication rate was 7.4% (major=0.9%, minor=6.5%). Complications included: 6 urinary tract infections, 2 patients with urosepsis, and 8 patients with hematuria. No intraoperative perforations or ureteral avulsions were encountered during the procedures.
Conclusion: Flexible ureteroscopy with holmium:YAG laser lithotripsy is a highly effective, minimally invasive and safe therapy for selected patients with renal stones.

UP.324
Can Limited Urine Samples Replace or Improve Upon Traditional 24-hour Urine Collections in Evaluating Kidney Stone Patients?
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Introduction and Objectives: Kidney stones affect up to 10% of the population in North America and pose as significantly painful and common disorder across the world. Kidney stones are costly to health care system and society. Considering that after one stone, 56% of patients will have a recurrence within 5 years, prevention is the key. Risk factors are generally assessed with 24-hour urine collections to determine the excretion of pH, calcium, oxalate, citrate, and other metebolites. Changes in diet or medications can then be recommended to prevent further kidney stones. Since 24-hour urines are cumbersome to collect and give only the averaged concentrations and saturations over 24 hours, thereby potentially missing critical supersaturation peaks during the day. The objective of this study is to determine if short-term (4-6 hours) urine samples can identify stone-forming risk factors either as well as, or better than, standard 24-hour urine collections in the evaluation of kidney-stone patients.
Materials and Methods: Patients are consented for the study and collect a 24-hour urine into different containers over 4 successive time periods. Calcium oxalate saturation will be measured using the Tiselius index, which includes the urine volume. Solute excretion rates will be compared using solute: creatinine ratios. A sample size of 16 patients will be needed to show a 30% difference (80% power and alpha level 0.05).
Results: We are in the process of collecting and analysing preliminary data. We have collected divided urine samples from 19 patients to date. The specimens have been processed and are being analysed. We hypothesize that saturation levels may show peaks during the day, for example post-prandially, thus increasing the risk for forming stones.
Conclusion: This information may improve the detection of metabolic abnormalities in kidney stone patients and could lead to the routine use of more convenient short-duration urine samples rather than the tradititional 24-hour collections.

UP.325
Optimal Shock Wave Rate of Shock Wave Lithotripsy in Urolithiasis Treatment: Prospective and Randomized Study
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Introduction and Objectives: We aimed to compare the effect of fast shock wave rate (120 shocks per minute) and slow shock wave rate (60 shocks per minute) on shock wave lithotripsy (SWL) success rate, patient's pain tolerance and complications.
Materials and Methods: A total of 165 patients with radiopaque renal pelvis or upper ureter stones were included in the study. Patients were classified via a random numbers table. Group I (81 patients) received 60 shock waves per minute and Group II (84 patients) received 120 shock waves per minute. For each session, the success rate, pain measurement and complication rate were recorded.
Results: No statistically significant difference was observed in patients according to age, sex, body mass index, stone size, side, location, total energy level or number of shocks. The 1st session success rate in Group I was greater as compared with that in Group II (p=0.002). The visual analog pain scale in Group I was lower than that in Group II (p=0.001). The total number of sessions to success and complication rate in Group I were significant lower than Group II (p=0.001).
Conclusion: The success rate of SWL is dependent on the interval between the shock waves. If the time between the shock waves is short, the rate of lithotripsy success decreased, but pain measurement score and complications increased. We conclude slow shock wave lithotripsy is the optimal shock wave rate.

UP.326
Predicting Success of Emergency Extracorporeal Shockwave Lithotripsy (eESWL) in Ureteric Calculi
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Introduction and Objectives: There are very few studies correlating the reduction of ureteroscopy for stone removal following emergency ESWL (eESWL). In this study, we try to establish the efficacy of emergency ESWL and associate factors that may predict successful outcome.
Materials and Methods: We retrospectively reviewed patients presenting with their first episode of ureteric colic, with no history of previous ureteric instrumentation that subsequently underwent eESWL (defined as treatment within 72 hours of presentation) over a 5 year period. Study parameters included age, gender, stone size, location and density in Hounsfield units (HU), time between presentation and ESWL treatment, as well as number of shock waves and ESWL sessions for achievement of stone free status. Patients were divided into two groups according to ESWL success and the above parameters were analyzed.
Results: We included 97 patients (mean age 40yrs; 76 male and 21 female). Of those patients, 71 were stone-free after eESWL (73.2%) (group A); 26 patients failed treatment and underwent ureteroscopy (group B). Demographic data and the distribution of the ureteric stones (upper, mid and lower ureter) were similar for both groups. Mean stone size in group 1 was 6.4 mm and 7.7mm in

group 2 and there was a statistically significant correlation with stone free rate ($p<0.01$). Mean stone density was 480 HU in group 1 and 612 HU in group 2 and there was also a statistically significant correlation with stone free rate ($p<0.01$). More patients in group 2 received treatment after 48 hours compared with group 1 (38% vs 22.5%). The number of shock waves, maximal intensity and ESWL sessions were not significantly different in the 2 groups.
Conclusion: Emergency ESWL is safe, effective and should be considered in patients with ureteric colic. Early treatment (≤ 48 hours) minimizes stone impaction and increases the success rate of ESWL. Stone size and density are important factors in predicting outcome. Based on these results a cost efficiency study will be appropriate to identify further benefits for this treatment modality. Randomized studies comparing the outcome of eESWL with routine outpatient ESWL also need to be conducted.

UP.327
The Correlation between Abdominal Obesity and Stone Analysis in Korean
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Introduction and Objectives: Recent epidemiologic and clinical data suggest that metabolic syndrome is involved in the pathogenesis and progression of stone disease. The purpose of our study was to assess to relation between subcutaneous adipose tissue, visceral adipose tissue, and stone anaysis in Korean patients.
Materials and Methods: Between 2011 and October 2012, 320 patients underwent stone surgery (ureteroscopic stone extraction, laparoscopic ureterolithotomy, percutaneous nephrolithotomy) at a tertiary center. Stone surgery was performed by three surgeons. Among those, 285 patients were enrolled and the data were collected retrospectively in medical records. Each subject underwent cross-sectional CT scan of the abdomen at the level of L4. Assessment of total, visceral and subcutaneous abdominal fat compartments was performed by single slice CT. Analyses were performed using Alice software (version 4.3.9; Parexel, Waltham, MA).
Results: The median age was 56 years. Total of 177 (62%) patients had male and 108 (38%) patients had female. In stone analysis, 145 (51%) patients had calcium stone, 35 (12%) patients had carbonate stone, 89 (31%) patients had uric acid stone and 16 (6%) patients had struvite stone. There were performed to assess the association of the visceral adipose tissue, subcutaneous adipose tissue, total adipose tissue, area ratio (V/V+S, %), outer circumference (cm). In male group and female group, the visceral adipose tissue (123.6±49.2, 120.4±48.2), area ratio (46.0±9.3, 38.6±8.7) and outer circumference (86.5±8.0, 85.9±8.8) were not significantly different but subcutaneous adipose tissue (146.2±61.4, 189.0±58.7), total adipose tissue (269.8±95.3, 309.4±91.8), were significantly different. In calcium stone, carbonate stone, uric acid stone and struvite stone, the visceral adipose tissue (115.9±45.9, 137.3±51.9, 135.2±52.4, 106.6±55.8), subcutaneous adipose tissue (163.6±65.9, 174.4±52.2, 163.8±64.4, 117.4±46.4), total adipose tissue (279.5±99.6, 311.7±73.1, 299.0±94.0, 224.0±81.6), area ratio (41.7±9.1, 43.9±10.8, 45.6±10.4, 47.4±13.1) and outer circumference (85.2±8.2, 86.8±6.5, 89.5±9.0, 81.1±3.0) were not significantly different.
Conclusion: In Western, Obesity defined by BMI and Waist circumference seems to be associated with stone disease. But our study showed abdominal obesity is not associated about prostate cancer stage and grade in Korean.

UP.328
A Safe and Effective Method for Renal Colic Complicating Pregnancy
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Introduction and Objectives: No consensus has yet been established for the treatment of renal colic during pregnancy. In this study, we review the management practices of the disease.
Materials and Methods: Between Jan 2007 and Jan 2012, 32 pregnant women were treated for renal colic in Peking University First Hospital. The medical records of the patients were reviewed retrospectively.
Results: The mean age of the mothers was (28.2±4.1) years and mean gestational age (20.2±6.5) weeks. All patients had flank pain on one side. Fever (18.8%, 6/32) was the second common symptom. Most patients (81.3%, 26/32) had a positive percussion over renal regions. The majority of the patients (75%, 24/32) had medium to severe hydronephrosis. However, renal or ureteral calculi were observed by ultrasonography only in 10 patients (31.3%, 10/32; renal calculi n=3, upper ureteral calculi n=3, lower ureteral calculi n=1, both renal and ureteral calculi n=3). The mean diameter of the observed calculi = 8.3 mm. Analgesics or antispasmodics (eg, progesterone) were given as soon as possible. Symptomatic relief occurred in 3 patients (9.4%). Invasive management was used in 29 patients (90.6%) because of persistent pain after more conservative treatments: double-J stent was inserted by cystoscopy in 27 patients, and percutanous nephrostomy in 2 patients because of failure of double-J stent insertion. Symptomatic relief occurred in all patients after invasive management. No serious urologic or obstetric complications were observed in any patient except for stent-induced bladder irritation in a single patient, intermittent mild lumbago in two patients, and abortion in a patient because of serious infection. Following delivery, stones were removed by ESWL or ureteroscopy and the double-J stent was extracted. Urography showed no residual calculi.
Conclusion: For pregnant women with renal colic, the majority of the patients have medium to severe hydronephrosis, however, renal or ureteral calculi is not easily observed, as well as not being the unique etiological factor. Double-J stent insertion, the safe, effective, simple and convenient method, should be the recommendation for all women with renal colic during pregnancy with or without calculi, if no improvement is observed in typical conservative management strategies.

UP.329
Can We Detect Renal Stone Fragility before PNL Operation?
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Introduction and Objectives: Percutanous nephrolithotripsy (PNL) is the usual

operation for large renal stones and complex location stones, but in some case, we operate soft and fragile renal stones more feasible for ESWL. So we conducted a retrospective evaluation of PNL cases and how we detected renal stone fragility before PNL operation.
Materials and Methods: From October 2010 to February 2013, we retrospectively followed 94 PNL operation cases. We graded the stone hardness soft to very hard as 4 grades. We checked X-ray, CT finding, OP finding, stone hardness and OP time and laser time, energy, pulse time, post-operation stone analysis etc.
Results: In 12 cases, we found soft renal stones. As compared with other groups, the soft stone group's pre-operation assessment was: lower CT density ($p>0.05$), lower X-ray opacity ($p>0.05$), but we did not find statistical difference. Post-operation stone analysis has a multi stone component (carbonate, phosphate etc). OP finding are all whitish or bright yellow stone color, OP time is about 10 mins, laser time about 5 mins, mean laser pulse was 650 times.
Conclusion: We could not find pre-operation difference in soft renal stone group. In South Korea, medical insurance does not permit PNL post ESWL. If we can predict soft renal stone case, we can avoid unnecessary PNL operation and use ESWL. So, we will need to find another parameter in soft renal stones.

UP.330
How to Have High Flow Irrigation and Good Visibility in Percutaneous Renal Surgery: Another Trick
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Introduction and Objectives: During PCNL, large outflow of irrigating fluid, may lead to retraction of the pelvi-calyceal system, reduced visibility, and difficult exploration especially when there is an urothelial mucosal bleeding. We present our tricks to overcome this difficulty by using certain maneuvers to increase the irrigant flow or to decrease the outflow or both without.
Materials and Methods: During percutaneous nephroscopy, irrigation flow can be increased using manual pressure by twisting the irrigant bag. In addition, an extra irrigation may be installed via the nephroscope drainage port. Otherwise, to block the irrigant outflow, the junction between the Amplatz sheath and nephroscope is closed by a watertight grasp with the left hand. Alternatively, the rubber seal of the nephroscope can be adapted to the 30 Fr sheath.
Results: These maneuvers allow an improved visibility and distension of the pyelo-caliceal system for a better inspection, thus a successful outcome of the percutaneous renal surgery. Techniques to increase the irrigation flow are a low-pressure system with less risk of complication. Techniques blocking the irrigation outflow lead to intra-renal high pressure with risk of large extravasations and fluid absorption. They have to be used for short periods.
Conclusion: These techniques are helpful to have a clear visibility in difficult situations. They might be an alternative to pressure bag and automated pressure device; however, they must be used with caution to avoid complications.

UP.331
Percutaneous Nephrolithotomy: Critical Analysis of Unfavorable Results
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Introduction and Objectives: To identify the risk factors of unfavorable results of percutaneous nephrolithotomy (PCNL).
Materials and Methods: A total of 602 patients were subjected to 616 PCNL procedures. Patients were divided into two groups according to the results of treatment. Group 1 with favorable results includes patients who became stone free after a single PCNL procedure without major complications. Group 2 with unfavorable results includes three subgroups: a) Patients who developed major complications, b) Those who required second major intervention to complete stone removal, and c) Patients with residual stones > 4 mm at 3 month. Risk factors for unfavorable outcome were studied by univariate and multivariate analyses.
Results: Unfavorable results were documented in176 patients (28.6%) due to major complications in 40 (6.5%), need for second intervention in 124 (20%), and presence of residual stones > 4 mm at 3 month in 12 (1.9%). The remaining 440 patients (71.4%) were considered of favorable outcome. Independent risk factors of unfavorable results on multivariate analysis were staghorn stones, multiple stones and stone largest diameter > 50 mm.
Conclusion: To optimize the results of PCNL, urologists should consider careful patient selection. Patients with staghorn stones, multiple stones or large stone burden are more susceptible to unfavorable outcome.

UP.332
Evaluation of Safety and Efficacy of Supine Percutaneous Nephrolithotripsy; First Experience in Cairo University
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Introduction and Objectives: The aim of the work is to evaluate the safety and efficacy of supine percutaneous nephrolithotripsy (PCNL).
Materials and Methods: Prospective study conducted in the urology department, Kasr AlAiny hospital, Cairo University. The study included 32 patients comprising 14 males and 18 females. All patients were subjected to thorough history taking, general examination, appropriate laboratory investigations and radiological investigations as needed. Our exclusion criteria were patients with recurrent renal surgery, stag horn stones, co-existing renal anomalies. All patients had no contraindications for general anaesthesia and the prone position with the exception of 3 cases.
Results: The mean age was 38.2 years (28-56), mean weight 75.5 kg (62-90), mean height 1.67 m (1.58-1.84),and, mean BMI 27.1 kg/ m^2 (22.8-33.1). The mean maximum stone diameter was 2.4cm (1.5-4). The mean operative time was 75 minutes (57-105). A stone-free rate of 90.6% was achieved. Mean hospital stay was 3.2 days (2-6). Residual stones were present in 3 cases and were subsequently managed by ESWL. Only 1 patient required blood transfusion. There were no major vascular or colonic injuries.
Conclusion: Supine PCNL is now gaining ground in centers of excellence being safe and effective in treatment of renal and upper ureteral stones. It offers several advantages for the patient, the surgeon and the anaesthesiologist.

UP.333
Is Success Rate of Emergency Retrograde Ureteric Stenting Affected by the Size and Site of Obstructing Ureteric Stone?
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Introduction and Objectives: To retrospectively analyze the cases requiring emergency urinary drainage, success rate of ureteric stenting and factors that might predict retrograde stenting failure in an institution in Hong Kong.
Materials and Methods: From Jan to Dec 2011, cases of patients who were admitted to Tuen Mun Hospital and diagnosed of obstructing ureteric stone were collected. The location and size of the ureteric stones were estimated with KUB. CT scan was used instead for radiolucent stones. Only those had emergency urinary drainage with retrograde ureteric stenting i.e. double J stent or percutaneous drainage i.e. percutaneous nephrostomy (PCN) during the admission were recruited and analyzed statistically with logistic regression.
Results: A total of 41 renal units of 37 patients with mean age 58.5 (ranged from 33 to 92) were drained with either double J stent or PCN. Among those patients, 13 were male and 24 were female. The indications of drainage included pyonephrosis (n=27) (73%), acute renal failure due to stone obstructing an anatomically or functionally solitary kidney (n=2) (5%) and bilateral ureteric stones (n=8) (22%). Retrograde ureteric stenting was successful in 36 renal units (88%), while the other 5 (12%) failed and all of them were immediately converted to PCN in the operation threatre. 28 of 41 renal units were obstructed by upper ureteric stones, 1 by mid ureteric stone and 12 by lower ureteric stones. There were 24, 1 and 11 renal units obstructed with upper, mid and lower ureteric stones respectively and all of which are treated with double J stent. Four upper ureteric stones and 1 lower ureteric stone failed retrograde stenting and required PCN. The average stone size was 10.04 mm. The average stone size of successful and failed retrograde stenting was 10.1mm and 9.4mm respectively. Statistical analysis revealed no significant impact (p value >0.05) of stone size and location on the success rate of retrograde stenting.
Conclusion: The best treatment modality for obstructing ureteric stone cannot be determined with stone size and location. Because of the high success rate, every obstructing ureteric stone is worthy a trial of double J stent insertion to relieve the obstruction.

UP.334
To Had an Open Surgery for Renal Stones Does Not Adversely Affect the Results of Percutaneous Nephrolithotomy
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Introduction and Objectives: To investigate the differences between the percutaneous nephrolithotomy results of the patients who had open surgery for renal stones and the patients undergoing surgery for the first time.
Materials and Methods: Patients who had percutaneous nephrolithotomy (PCNL) for the renal stones bigger then 2 cm between the years 2009-2012 evaluated. Stone size, fluoroscopy time at surgery, number of access during surgery, nephrostomy tube length of stay, complications, need for transfusion and stone free rate of the patients evaluated. The results of the two groups were compared.
Results: A total of 51 patients included in the study. Sixteen had open surgery for renal stones before and 35 have surgery for the first time. The average age was 38.4 years (17-75), the average stone size 8.12cm^2 (2-25cm^2), average fluoroscopy time at surgery 13 minutes (4-23) and average time of nephrostomy tupe was 3.25 days (2-7 days) for the patients who had surgery before. 6 patients had 2 accesses for PCNL and 10 patients with 1 access. Twelve patients had first degree, 2 patients had second degree and 3 patients had third degree complications according to Clavien Classification of Surgical Complications. The average age was 38.9 years (20-74), the average stone size 5.57cm^2 (2-16cm^2), average fluoroscopy time at surgery 9.97 minutes (3-27) and average time of nephrostomy tupe was 3.37 days (2-7 days) for the patients undergoing surgery fort he first time. One patient had 3 accesses for PCNL, 3 patients had 2 accesses and 28 patients with 1 access. In addition, 28 patients had first degree, 3 patients had second degree and 4 patients had third degree complications according to Clavien Classification of Surgical Complications (Table 1).
Conclusion: Percutaneous nephrolithotomy is a good option for the patients who had open surgery for renal stones like the patients undergoing surgery for first time with similiar complication and stone-free rates.

UP.335
Management of Complex Renal Stones by PCNL: Single Puncture vs. Multiple Punctures in Our Institute
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Introduction and Objectives: PCNL is the treatment of choice in complex renal stones, either multiple stones in multiple calyces or even staghorn stones. The current study compares single puncture PCNL versus multiple accesses PCNL for management of complex stones for outcome stone-free rate and complications.
Materials and Methods: Preoperative evaluation, detailed medical history and clinical examination, routine preoperative investigations and imaging study in the form of IVP and non-contrast CT were done. There were 46 patients with complex renal stones who underwent PCNL and were divided into 4 groups, Group A: single puncture PCNL (20 patients), Group B: multiple access puncture (6 patients), Group C: single Y puncture (10 patients), Group D: multisession PCNL (10 patients). All PCNL were done

UP.334, Table 1. Peroperative Data of Patients Undergoing Percutaneous Nephrolithotomy.

		Patients who had open surgery for renal stones (n:16)	Patients undergoing surgery fort he first time (n:35)
Age		38.4 (17-75)	38.9 (20-74)
Stone Size		8.12cm2 (2-25cm2)	5.57cm2 (2-16)
Fluoroscopy Time		13 dakika (4-23)	9.97dakika(3-27)
Nephrostomy Tube		3.25 gün (2-7 gün)	3.37 gün (2-7 gün)
Preoperative Hemoglobin / Hematocrit		13.88 g/dL (11.3-15.6) 40.26 (31.6-48.5)	14.34 g/dL (10.4-17.2) 40.94 (30.1-48.8)
Postoperative Hemoglobin / Hematocrit		12.16 g/dL (7.63-15.1) 35.08 (22.7-43.9)	12.67 g/dL (7.9-15.8) 36.86 (22-49.9)
Stone-Free Status	Stone-free	4 (%25)	17 (%48.5)
	CIRF*	6 (%37.5)	8 (%22.8)
	Residual Stone	6 (%37.5)	10 (%28.6)

*CIRF: Clinically insignificant residual fragment

under fluoroscopy guidance, lithotripsy was done by pneumatic lithoclast for all candidates, nephrostomy tube was left postoperative for all patients after procedure. Postoperative follow up, CBC and KUB was done.
Results: All patients tolerated the technique. Mean stone burden 3.78 cm with standard deviation 1.6 cm. Mean hospital stay 3.9 days with standard deviation 1.1. Stone-free rate was reported in single puncture PCNL as (50%), multiple access puncture (100%), single Y puncture (80%), multisession PCNL (80%). Bleeding from PCNL tract during the procedure is reported in 6 patients of Group A (30%) that necessitated blood transfusion, 2 of Group B (33.3%) due to renal bleeding necessitated blood transfusion and managed conservatively, Bleeding from PCNL sheath during procedure in 6 cases of Group D (60%) necessitated blood transfusion. UTI is reported in 2 patients from group A (10%), and 2 patients from group C (20%). No persistent leakage was reported in all groups.
Conclusion: In our institute, Y single puncture(s) are safe and versatile modality for management of complex renal stones with comparable outcomes regarding the stone free rate and complications to multiple access puncture and single puncture PCNL.

UP.336
Tubeless Percutaneous Nephrolithotomy: Prospective Study about 20 Cases
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Introduction and Objectives: Percutaneous nephrolithotomy (PCNL) is a mainstream urologic approach for management of large renal stones. Today, standard PCNL includes nephrostomy tube placement designed to drain the kidney and operative tract. Modern techniques of PCNL, tubeless PNL and totally-tubeless PCNL, are performed without standard nephrostomy drainage. The objective of this study is to demonstrate that PCNL can be safely performed using a tubeless technique generating a trend towards a cost-effective outpatient procedure with improved pain profiles.
Materials and Methods: Prospective analysis of 20 patients with previous PCNL treatment was performed. A tubeless procedure was performed in all cases.
Results: Eleven men and 9 women were treated. The average age was 52 years, operative time was average 116 minutes and stone free rate without ancillary procedures was obtained in 92%. Post operative bleeding occurred in one case, post operative fever occurred in 3 cases; the median hospital stay was 3 days.
Conclusion: Tubeless PCNL can be performed safely and effectively leading to significantly improved cost-effectiveness, patient pain profiles and length of hospitalization.

UP.337
Flexible Ureteroscopy with Holmium Laser in Ureteral Litiasis: Initial Experience and Results
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Introduction and Objectives: Holmium Laser (HL) is actually the gold standard in intracorporeal lithotripsy of the urinary system. This energy fragments stones independent of its chemistry compound, being able to use it in semi-rigid and flexible ureteroscopy and all along the urinary system. The purpose is to show our experience in flexible ureteroscopy and intracorporeal lithotripsy with HL in a consecutive series of patients with symptomatic ureteral lithiasis, being the first national experience with HL in the public health system.
Materials and Methods: Prospective analysis of 144 ureterolitotomies with HL using flexible ureteroscopy, done between November 2010 and July 2012 because of proximal and medial ureteral litiasis greater than 5 mms and more than 1000 HU. Odissey, from Cook ®, was the energy used, that uses optic fibers from 273 to 550 μs.
Results: Sixteen ou of 144 patients (11%) underwent a frustrate previus extracorporeal lithotripsy. The relation M:W was 2:1. The average size was 9 mms (6-25). To achieve the ureter we always used a hydrophilic chemise of 11 Fr (Navigator®). Twelve patients had simultaneous bilateral endoscopic lithotripsy and 16 had multiple ureteral lithiasis. The surgical time was 56 mins (23-108). At the end of the surgery a n°6 hydrophilic pig-tail catheter was used, which was retired at the 7th day in average. In 7 cases the surgery was done in 2 times, because of technical difficulties at the access and/or fragmentation. All the patients had tone free renal units. No intraoperative or immediately postoperative complications were registered. A pielo TAC was done in 31 cases without evidentiating migratory or residual lithiasis. The pain scale (AVE) at the next day was 2 points (1-4) in average. The discharge was indicated at the first day (1-3). All patients are asympthomatic
Conclusion: Ureterotomy using flexible ureteroscopy and HL is a secure and efficacious technique. It allows an easy access to the high urinary way, having surgical and aenesthetic advantages. Also, the HL has a mayor rate of stone free compared with extracorporeal lithotripsy and other fragmentation energys. However, this technique requires a full training of all the surgical team.

UP.338
Percutaneous Nephrolithotomy (PCNL) in Semisupine-lithotomy Position versus Prone Position for Treatment of Complex Renal Stone: A Comparison of Perioperative Data
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Introduction and Objectives: To explore the surgical technique and evaluate safety of percutaneous nephrolithotomy (PCNL) in semisupine-lithotomy position for treatment of complex renal stone.
Materials and Methods: Between March 2007 and December 2011, 686 patients (474 male, 212 female; mean age ± SD, 47.7 ± 12.9 yrs) with complex renal stone underwent PCNL in semisupine-lithotomy position. With patient in semisupine-lithotomy position, retrograde ureteral catheterization was done and under ultrasonographic guidance 16-22 F percutaneous access tract was established. A 8/9.8F rigid ureteroscope was introduced through the access tract and using pneumatic lithotripter associated with perfusion pump renal stones were disintegrated and fragments flushed out. Operation time, blood loss, stone clearance and complications were recorded and compared with that in 340 cases undergoing PCNL in prone position during same period of time.
Results: PCNL in semisupine-lithotomy position was successfully completed in all cases, the mean operation time was found to be significantly lower than in prone position (72.9 ± 28.7 mins vs 91.1 ± 42.2 mins, $p<0.01$). Mean estimated intraoperative blood loss 104.3 ± 76.6 ml, transfusion rate 1.31%, stone clearance 80.6% and total complication rate 2.62% in semisupine-lithotomy position were not significantly different than in prone position. A total of 97.7% of patients related semisupine-lithotomy position to be

comfortable which was better than that in prone group (64.1%).
Conclusion: PCNL in semisupine-lithotomy positionfor treatment of complex renal stone renders patient position comfortable. It is a safe and feasible procedure; has lower complication rate; facilitates intraoperative anaesthesial monitoring; improves safety of surgery; facilitates flushing out of stone fragments and has good surgical outcomes.

UP.339
Prone Position or Completely Supine Position in Percutaneous Nephrolithotomy for Staghorn Stones in Patients with Solitary Kidney
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Introduction and Objectives: To evaluate the effectivity and safety of percutaneous nephrolithotomy (PCNL) in the treatment of solitary kidney with staghorn stones in prone position or in completely supine position.
Materials and Methods: We retrospectively reviewed the records of 18 patients with staghorn stones in a solitary kidney treated with PCNL. There were 12 patients that underwent PCNL in prone position (group A) and 6 patients underwent PCNL in completely supine position (group B). Demographic data, number of accesses, operating time, stone free rate, hemoglobin values, hospital stay and complications were studied. Serum creatinine, systolic and diastolic blood pressure, and new onset hypertension were determined preoperatively and postoperatively at 3 months.
Results: No blood transfusions were required and no abdominal or thoracic organ injuries were reported in both groups. The mean operative time was 104 minutes (range: 72-145 minutes) and 128 minutes (range: 80-170 minutes), respectively. The I stage stone free rate was 91.7% and 83.3%, respectively. There was no new onset hypertension by the end of follow-up in both groups. Both groups showed a similar fall in serum creatinine at 3 month follow-up period (P = 0.004 and 0.029, respectively). Systolic blood pressure showed a statistically significant improvement in group B (P = 0.034).
Conclusion: PCNL is safe and has an acceptably high stone free rate in patients with solitary kidneys in both prone and completely supine position. At short-term follow-up, systolic blood pressure had improved in PCNL in supine position.

UP.340
Percutaneous Nephrolithotomy with High-power Ho:YAG Laser for Complicated Renal Calculi
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Introduction and Objectives: To evaluate the safety and efficacy of percutaneous nephrolithotomy (PCNL) with high-power (60w) Ho:YAG Laser for treatment of complicated renal calculi.
Materials and Methods: From February 2008 to December 2012, 131 patients with complicated renal calculi underwent PCNL with high-power (60w) Ho:YAG laser using a 1000 μm end-firing optic fiber. Of the 131 patients, 34 had complete staghorn calculi, 67 had partial staghorn calculi and 30 had renal pelvis calculi> 3cm.
Results: All patients had successful PCNL. Calculi were removed by one session in 102 patients and by two sessions in 29 patients. Stone free rates at hospital discharge and at 3 months follow-up were 78.6% and 83.2%, respectively. The transfusion rate was 3.1%. No injury to the pleura and abdominal organs occurred during the procedure. Nine patients had postoperative fever.
Conclusion: PCNL with high-power (60w) Ho:YAG laser is a safe, effective and minimally invasive treatment for complicated renal calculi.

UP.341
Comparative Incidence Patterns and Impact of Age on Histological Type of Testicular Germ Cell Tumours
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Introduction and Objectives: Testicular germ cell tumours (GCTs) have their incidence peak in the third and fourth decades of life. Recently, there have been suggestions of an increasing incidence of these tumours and also, the histological subtype ratio appears to shift toward seminoma. We retrospectively looked to our patient populations to verify these recent trends.
Materials and Methods: A total of 135 caucasian patients with histologically proven of GCTs diagnosed between 2004 and 2012 were retrospectively evaluated regarding the year of diagnosis, histology of primary tumour and age at presentation. Mean age and relative proportion of seminoma and non-seminoma were compared among patient categories by employing the chi-square test and analysis of variance, respectively.
Results: The mean patients age was 34 years (range 19-70). Overall, there were 74 (54.8%) patients with seminoma and 61 (45.2%) with non-seminoma. The average numbers of seminomas treated were 8 (40%), 23 (56%) and 41 (63%) and the corresponding numbers of non-seminoma were 12 (60%), 18 (44%), 24 (37%) during the time intervals 2004-2006, 2007-2009 and 2010-2012 respectively. Between 2004 and 2006, seminoma comprises only 40% of all the GCTs and the relative proportion of these has risen ever since. Conversely, the relative proportion of non-seminoma continuously decreased over time. These changes are statistically significant ($p<0.001$). Notable, the difference between seminoma and non-seminoma regarding age at presentation remained the same between both groups and during the entire observation period.
Conclusion: The proportion of seminoma is constantly increasing at the expense of non-seminoma tumours. The reasons of this histological shift are not well understood and an involvement of postnatal environmental factors in the pathogenesis of GCTs may be considered.

UP.342
Laparoendoscopic Single-site Retroperitoneal Lymph Node Dissection via Pararectus Approach: Experience with 2-year Follow-up
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Introduction and Objectives: To introduce our experience of laparoendoscopic single site (LESS) retroperitoneal lymph node dissection (RPLND) via pararectus approach for treatment of nonseminomatous testicular cancer and verify the possibility and effect of it.
Materials and Methods: From September 2010 to June 2012, 4 male patients (age 18~27 years old), present with enlarged right testicle and elevated AFP level, underwent right radical orchidectomy. The histopathological analysis revealed nonseminomatous germ cell tumor. Laparoendoscopic single site retroperitoneal lymph node dissection (LESS-RPLND) was performed 3 weeks after orchiectomy. The patient was placed in supine position with affected side elevated 20 degree. After the 3 cm right pararectus

incision was made in right lower quadrant, the homemade port was inserted. The unilateral RPLND with nerve-sparing technique was conducted and modified right-sided template was removed in accordance with open RPLND.
Results: The operation was successfully performed through the solo pararectus incision and mean operative time was 240 min. Mean estimated blood loss was 50 ml. No conversion to open or conventional laparoscopic surgery was required. No major perioperative complications were observed. For the first case, number of lymph nodes obtained on final histopathological examination was 11 and two positive nodes were detected. For the other 3 cases, no positive nodes were detected. Chemotherapy was needed for the first case. AFP level decreased close to base line one week postoperatively. No relapse was observed 2 year after RPLND for the first two cases. The other two cases recovered well without recurrence at 6 months follow-up.
Conclusion: In our experience, LESS-RPLND is safe and feasible, and pararectus incision gains good approach and satisfactory cosmetic result. Large population-bases study and long time follow-up were needed to prove the oncological outcome of LESS-RPLND.

UP.343
Collaborative Care of Urologic Cancer Patients through Telemedicine in Northeastern Ontario
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Introduction and Objectives: Collaborative care of patients has occurred by the traditional Consultant-Primary Care Provider dialogue by letter (mailed, faxed or EMR). Sometimes telephone dialogue may clarify issues of care and expectations of patients and primary care provider. Found in several locations across Northern Ontario, Ontario Telemedicine Network (OTN), face-to-face information sharing by instant video conferencing has added significant benefit to timely delivery of health care to patients in remote and rural communities. We reviewed the number of patient encounters involving urology cancer patients, their relatives, primary care providers and the urologist over the past 6 years. We wanted to determine the frequency of occurrence, the benefits, drawbacks and future application.
Materials and Methods: A descriptive study of a cohort of existing and new patients with a urologic cancer requiring procedures and surveillance was done. Diagnoses, Treatment, Number of visits via Telemedicine and outcome of Telemedicine encounter were recorded. Observational comments from patients, their relatives and primary care provider (Nurse or Doctor) were noted.
Results: Ten out of over 1,000 patient encounters through the Urologist's Office-based Telemedicine service engaged the patients, their relatives, the primary care provider and the urologist in information sharing and health education. Diagnoses were Prostate (5), Renal (4), Bladder Cancer (1). This style of care appeared to improve patients' compliance and welfare. The relatives felt they were involved and knowledgeable about care provided. The primary care provider was well informed and able to implement strategic supportive care very effectively.
Conclusion: While this type of care may appear beneficial there may be some challenges and draw backs. This study has limitations that need to be addressed by future studies to include more patients, other clinical entities and practitioners. Many potential applications of Telemedicine may be realized.

UP.344
Quality of Urological Research in Sub-Saharan Africa: An Appraisal of Nigerian Research
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Introduction and Objectives: Nigeria is one of the top three countries in Africa in terms of science research output and the biomedical research output of Nigerian urologists contributes to this. Each year, urologists in Nigeria gather to present their recent research at the conference of the Nigerian Association of Urological Surgeons (NAUS). These abstracts may affect the clinical practice of attendees. This study describes the characteristics and quality of research presented at NAUS conferences.
Materials and Methods: Abstracts presented at the 2007 to 2010 NAUS conferences were identified through conference abstract books. The characteristics of the research were critically analyzed and their quality judged by subsequent successful publishing of full-length manuscripts in peer reviewed indexed journals. Using a strict search protocol, publication in indexed peer reviewed journals was evaluated and statistical analysis performed to determine those characteristics predictive of successful publication.
Results: Of the 75 abstracts presented during the study period, only 24% were subsequently published as full-length manuscripts. Median time to publication was 15 months (range 2-40 months).
A third of the presented abstracts were either case reports or small case series; more than half of the rest were retrospective studies. Table 1 shows the proportions of published manuscripts by use of statistics; over 70% of abstracts which used beyond basic statistics of frequencies and averages were subsequently published as full length manuscripts while less than 20% of abstracts with only basic statistics or none at all were similarly published (p=0.009). Manuscripts with statistics beyond the basics of frequencies and averages were 11 times more likely to be published than those with basics statistics or none at all (p=0.014).
Conclusion: The quality of urological research is low in sub-Saharan Africa and it is influenced by the use of beyond basic statistics in research. Resolution of this situation will improve the visibility of the region's urological research.

UP.345
Integrating Urological Care Initiatives with National Health Care Priorities – The Gambia Experience
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UP.344, Table 1. Proportions of Published Manuscripts by the Use of Statistics.

Use of statistics	Number of Abstracts presented	Abstracts published
(Categories)		(% category published)
Basic	41	8 (19.5%)
Beyond basics	7	5 (71.4%)
None	27	5 (18.5%)
Total	75	18 (24.0%)

Introduction and Objectives: The Gambia is the smallest country on mainland Africa & one of the poorest. The only medical school in the country has been established for just over 10 years so there is a shortage of doctors in general & specialists in particular. There are numerous health-associated local & international Non-Governmental Organizations (NGOs), but only a few are focused on surgical care. Urological care is limited and urological services mainly based at the single teaching hospital, Royal Victoria Teaching Hospital (RVTH). Visiting urologists under the auspices of UROLINK, the overseas arm of the British Association of Urological Surgeons (BAUS), provide much needed urological services through regular annual visits. This study looks at ways of integrating the UROLINK visits with national health care priorities.
Materials and Methods: A descriptive situational analysis of urological care in The Gambia was carried out by the only Gambian urologist and the UROLINK team. Theatre and hospital records of RVTH surgical patients were examined over a comparable number of days to extract data on urological care during and outwith UROLINK visits. The result was presented to RVTH for discussion with the ministry of health as part of the national health care priorities.
Results: Comparing a 40 day period of UROLINK visits to a normal 40 day period at RVTH, the number of urological patients seen (997 v 854) was comparable but the number of operations carried out was 3X more (179 v 59) during UROLINK visits. The operations carried out by the visiting urologists were often more complex and many could not have been performed otherwise in The Gambia.
Conclusion: Visiting urologists provide much needed service and donate equipment and consumables to a developing country. Their presence also offers an opportunity to train local staff to provide a more efficient and improved quality of care. UROLINK visits should continue to be well planned and integrated into national health care priorities.

UP.346
Formal Didactic and Simulation Training for Urethral Catheterization in Medical School Curriculum: Seeking to Improve Patient-Centered Outcomes
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Introduction and Objectives: Despite the high prevalence of urethral catheter use, few medical students receive formalized instruction on proper catheter placement. Many students report discomfort and lack of confidence in performing the procedure. Considering the widespread availability of high fidelity simulators in medical school curriculums, improving this skill is a justifiable goal for improving patient care. For third-year medical students, we examined the impact of formal didactic instruction coupled with simulation experience for urethral catheterization.
Materials and Methods: On the first day of third-year medical students' surgery clerkship, each student completed a questionnaire rating their prior experience and level of comfort with urethral catheterization (on a five-part modified Likert scale). Students answered multiple choice questions concerning their general knowledge of the procedure. During their surgery clerkship, all students received formal didactic instruction on catheterization by a Urology resident. Students then practiced catheterization on simulators with continued supervision and instruction. At the end of the 8-week clerkship, students repeated the questionnaire rating their comfort level, general knowledge of catheterization and their perceived utility of the formal simulator training.
Results: A total of 237 students attended catheterization instruction. Initial comfort level with performing urethral catheterization was 2.8/5. The majority of students had prior instruction on catheterization within their medical curriculum (205/237). Nevertheless, all but 5 queried students believed that more formal training would be helpful. After formal training, students' average comfort level was 4.2/5 (2-5). Furthermore, 232 of 237 students rated the additional experience as helpful. After the training, correct responses to knowledge based questions on catheterization also improved from 31% to 60%.
Conclusion: Formal education and simulation of urethral catheterization is helpful for third-year medical students. Our investigation revealed that most students desire increased knowledge and skill concerning catheterization, but have limited opportunities to obtain proper instruction before performing the procedure on live patients. Following formal simulation training conducted by Urology residents, both the comfort level and procedural understanding of catheterization improved, and students reported feeling better prepared to perform catheterization.

UP.347
An Audit of Inpatient Urologic Referrals at a Tertiary Care Center
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Introduction and Objectives: Graduate medical education regulations have impacted resident physicians' ability to fulfill many traditional duties. This constraint has prompted attempts to curtail service-related obligations in order to prioritize education. There is a paucity of literature regarding inpatient urologic consultation and the impact on education and service. Thus, we audited inpatient referrals to the urology service at a tertiary care teaching center.
Materials and Methods: We prospectively collected and retrospectively analyzed data for consecutive inpatient consults referred over a four-month period. Information collected included the consulting service, time of request, purpose of consultation, urologic diagnosis, and intervention. We analyzed the characteristics of the referrals, concordance of the initial assessment with the final urologic diagnosis, and the necessity for prompt urologic evaluation.
Results: There were 246 consecutive inpatient referrals received in a four-month period (average of 14.5 consults/week). Patients were referred from 21 different services. Emergency services requested 41% of consultations, medical specialties 36%, and surgical specialties 23%. The most common diagnoses were: urolithiasis (16.2%), acute urinary retention (13.0%), gross hematuria (9.3%), urinary tract infection (9.3%), non-genitourinary related (6.5%), benign prostatic hyperplasia (2.4%), and scrotal/penile edema (2.4%). Of all referrals, 30.5% were received between 5 PM and 7 AM. There was a 62% concordance between the initial reason for consultation and the final urologic diagnosis. Referrals resulted in immediate intervention in 30% of cases, including: urinary catheter placement by the urology resident in 11.8% and urgent operative intervention in 14.6%. Routine outpatient follow-up was the primary recommendation for 37% of referrals.
Conclusion: This study profiled the characteristics of inpatient urologic referrals in a tertiary care center. Inpatient consultation represents a considerable component of the overall workload and resources of a urology service. It provides

a potential guide for the education of urology residents and those requesting consultation. Patients with non-urologic, chronic, and ambulatory diagnoses comprised a significant proportion of the referrals received by our service. These conditions could be targeted in the future for educational efforts to influence the number of consultations. Further analysis is warranted to evaluate the financial impact, workload strain, and patient care consequences of inpatient urologic consultations.

UP.348

Endoscopic Correction of Vesicoureteral Reflux Simulator Curriculum as an Effective Teaching Tool: Construct Validation Study

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Introduction and Objectives: Increased surgeon experience has an important role in the results of surgery, and it is well known that endoscopic injection has a definite learning curve. Endoscopic bulking agent injection is a 1 to 2-minute, highly confined procedure with little room for adjustment, intra-operative correction, or revision. We previously presented a porcine bladder simulator model for training and assessment of the surgical skills for the endoscopic correction of vesicoureteral reflux (VUR). We showed in a content validity study that this simulator realistically simulates the actual clinical procedure. In this study we aim to demonstrate that this simulator curriculum is able to improve the performance of the surgeon carrying out the procedure.
Materials and Methods: We developed a porcine bladder model placed in a training box. We positioned the porcine bladders with the distal ureters and urethra in 20x20cm polystyrene box. Dx/HA syringes and needles were used. Lubricant gel was utilized to simulate Dx/HA consistency. After theoretical and hands on demonstration of the surgical technique, trainees at different levels of expertise were asked to perform a cystoscopy as well as a submucosal injection, a subtrigonal injection, and a double hit injection. Training was performed for two hours. Each trainee injected eight ureteral orifices. Each step of the first and last injection were evaluated by a single examiner (AK) using a detailed questionnaire. Paired T-Test was used to demonstrate significant performance improvement between the first and last injection of each part of the procedure.
Results: Five Residents and one Fellow participated in the study. Overall, the simulator curriculum demonstrated a significant improvement in performance between the first and last evaluation (56% to 92%; $p=0.008$). Specific parts of the procedure that showed significant improvement ($p<0.05$), were: ureteral orifice identification, ureteral orifice hydrodistention, first and second injection, as well as location size and depth of the mound after injection.
Conclusion: Dx/HA Endoscopic Injection Simulator is an effective teaching tool to improve the performance of the surgeon carrying out the procedure. This teaching curriculum may shorten the early learning curve and provides a greater understanding of the technical components of successful endoscopic VUR correction.

UP.349

Determination of the Effects of Latency on Surgical Performance and the Maximum Acceptable Latency in Telesurgery Using the dV-Trainer® Simulator

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Introduction and Objectives: One key problem in telesurgery is telecommunication latency. Detailed and accurate data are still lacking to reveal the influence of latency on telesurgical performance, and to determine the acceptable upper limit of latency.
Materials and Methods: Quantitative and qualitative data were recorded in 15 medical students performing an energy dissection exercise (ex.1) and a suture exercise (ex.2), with different latencies on the robotic simulator dV-Trainer®. After a training stage without and with latency, latencies differing from 0ms to 1000ms with an interval of 100ms were randomly and blindly applied. Time to complete the work, movement of the instruments and errors were automatically recorded. Participants were required to evaluate the difficulty, security, precision, and fluidity of the manipulation after each test and to tell whether the latency could be accepted or not in surgery.
Results: Training and tests required 22 hours for each participant. The 15 participants succeeded to complete all the tasks under latencies differing from 0ms to 1000ms. Criteria of time and movement, for the 2 exercises, increased linearly with the latency ($R2>0.97$), and differences with 0ms became statistical significant at 200ms or 300ms latencies ($p<0.05$). For errors, an increasing tendency was also observed at Ex.1 and Ex.2, slowly from 0ms to 600ms and then sharply from 700ms to 1000ms. Besides, the coefficient of variance (CV) of these criteria didn't show a specific changing trend with latency, implying that the ability of operators to adapt to various latencies doesn't obviously differ from each other. Subjective evaluation demonstrated similar result for both exercises: quality of manipulation decreased gradually with the augmentation of latency, latencies of 100~200ms having a mild, 300~600ms a moderate, and 700~1000ms an important impact. Finally, for the majority of subjects, the maximum acceptable latency was 700ms for ex.1 and 500ms for ex.2.
Conclusion: Surgery may be possible at various latencies up to 1000ms, while latency augments the operation time and decreases the quality of manipulation. Maximum acceptable latency for most people during telesurgery could be 500~700ms depending on the complexity of the task.

UP.350

Development of a Hematuria Grading Scale for Assessment and Communication of Gross Hematuria

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Introduction and Objectives: There has been no appropriate evaluation tool for gross hematuria, and expressions of gross hematuria are diverse in real clinical setting. We conducted to develop a new tool for gross hematuria, the Hematuria Grading Scale (HGS), and evaluate its consistency in assessing hematuria samples.
Materials and Methods: The HGS was developed based on an evaluation of sample brightness and saturation using a CMYK (cyan, magenta, yellow, key [black]) color model. Thirty hematuria samples were prepared from human blood by diluting with saline using a standard method. Twenty examiners (five in each group, including laypeople, nurses, general practitioners, and urologists) participated. Each scored 30 hematuria samples using the HGS under the same conditions without communicating with one another. The intra-class correlation coefficient (ICC) was

calculated to assess the reliability of the datasets. Questionnaires for usefulness (Q1) and simplicity (Q2) were obtained from all examiners using a 5-point Likert scale.
Results: The ICC for pooled examiner scores showed a very high agreement rate (99.7%, 95% confidence interval [CI] 0.996-0.999). ICC values by group were 99.3% (95% CI 0.989-0.997) for laypeople, 98.8% (95% CI 0.980-0.994) for nurses, 99.1% (95% CI 0.984-0.995) for general practitioners, and 99.2% (95% CI 0.987-0.996) for urologists. Mean Q1 and Q2 scores were 4.70±0.66 and 4.30±1.03, respectively, indicating general satisfaction with the HGS among all examiners.
Conclusion: Evaluations of gross hematuria using the HGS were in high agreement among examiners of all types, and all examiners found the HGS simple and easy to use. The HGS should be a helpful tool for assessment and communication of gross hematuria.

UP.351
An Analysis of Surgical and Medical Society-Association Websites in Australia, Canada, Europe, UK and the USA: An Assessment of Quality and Variability of Health Information
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Introduction and Objectives: Official surgical and medical society-association websites are an invaluable resource of health information for professionals and patients. Within this niche of websites the quality of information remains variable. We aim to systematically assess these websites for content and delivery of health information and highlight the essential key features required for a high quality society website.
Materials and Methods: There are 100 society websites across the nine surgical and various medical sub-specialities in Australia, UK, Canada and the USA were selected via Internet search engines. Each website was systematically and critically analysed for: easily accessible patient information, downloadable information, statement of recent update, website links and multimedia usage.
Results: There were 39 (39%) out of 100 websites that had information tab for patients on their respective homepage while 41 (41%) have access to download information from the websites. Out of 100, 35% involved lifestyle information, 39% had procedure explanation while 23% had drug information. Just about quarter (27%) had either pictures, videos and or other forms of multimedia posted. Most (48%) of the websites were updated within a month period from date of review and 49% had been reviewed within a year.
Conclusion: The majority of the specialty healthcare societies-associations were quite active with their website updates. However, less than half of all websites were not patient accessible with the primary focus on health professionals and most requiring login for information access. Specialty healthcare societies-associations' websites need to become more education-focused for patients and other health professionals if they are to be the lead "voice" in their area of practice and to improve their craft group's profile within the wider community.

UP.352
Analysis of Operative Methods, Regional Distribution and Center-specific Proportion in Major Urological Oncology Surgeries in Korea; Based on 2010 Annual Report of Korean Urological Association
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Introduction and Objectives: We analyzed operative methods, regional distribution and center-specific proportion in major urological oncology surgeries (nephrectomy, prostatectomy and cystectomy) in Korea using the 2010 annual report of the Korean Urological Association (KUA).
Materials and Methods: A total of 95 hospitals were listed in 2010 annual reports of KUA. Nephrectomy, prostatectomy and cystectomy data were collected. Each surgery was divided into three methods; open, laparoscopic and robotic method. The regional distribution and center-specific proportion of each surgery was also analyzed.
Results: In 2010, a total of 4070 cases of nephrectomy, 3681 cases in prostatectomy, and 756 cases of cystectomy were performed in 86 hospitals. In the operative method analysis, the proportion of open, laparoscopic and robotic methods were 46%, 44% and 10% in nephrectomy, 38%, 12% and 50% in prostatectomy, 81%, 11% and 8% in cystectomy. In the regional distribution analysis, more than 50% of all nephrectomy, prostatectomy and cystectomy were performed in a hospital located in Seoul. In special aspect, more than 70% of robotic surgeries were undergone in a hospital located in Seoul. On the basis of the 2010 census, the number of each surgery per 100,000 people in Seoul was 22.55 in nephrectomy, 22.97 in prostatectomy, and 4.49 in cystectomy but lower than 10 in nephrectomy, 6 in prostatectomy and 2 in cystectomy in the other areas. With respect to the center-specific distribution, 35% of nephrectomy, 43% of prostatectomy, and 34% of cystectomy were performed at the 4 largest hospitals.
Conclusion: Minimal invasive operative method was the main operative method in nephrectomy and prostatectomy, but not yet in cystectomy in Korea in 2010. Over half of nephrectomy, prostatectomy and cystectomy were performed in Seoul and over the one third in the 4 largest hospitals. Major urological oncology surgeries were largely centralized.

UP.353
Are Urologists Adhering to National Recommendations to Prevent Post-operative Venothrombotic Embolism (VTE) with Peri-operative Injectable Anticoagulants?
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Introduction and Objectives: Post-operative VTE, which comprises deep venous thrombosis (DVT) and pulmonary embolism (PE), represent a preventable surgical complication and a significant burden on the US healthcare system. Although the American Urologic Association (AUA) has published best practice guidelines recommending routine use of VTE prophylaxis with injectable anticoagulants for major urologic procedure, it is unknown if urologists adhere to those recommendations. We performed a population-based analysis to determine the frequency of VTE prophylaxis with major urologic procedures.
Materials and Methods: We included all adult patients who underwent major urologic surgery (radical prostatectomy, radical cystectomy, radical nephrectomy or partial nephrectomy) between 2005 and 2010 from the Perspective Database, a nationally representative dataset. We identified patients who received injectable anticoagulants beginning on the day of surgery, based on hospital billing data, to determine utilization rates and analyzed the data with multivariate logistic regression models to independent predictors of utilization.
Results: From a weighted sample of

709,294 patients, the highest utilization rate was associated with radical cystectomy (19.08%), followed by radical prostatectomy (12.43%), radical nephrectomy (12.29%) and partial nephrectomy (8.71%). Over the sample period, utilization rates increased steadily: radical cystectomies had the largest increase (9.8%) while partial nephrectomies had the smallest rise (2.26%). Higher rates of perioperative VTE prophylaxis were associated with teaching hospitals, larger hospitals (>623 beds), and patients with a Charlson comorbidity scores >3.
Conclusion: There is limited use of VTE prophylaxis with injectable anticoagulants by urologists. The reason(s) for reluctance to adhere to the AUA guidelines is unclear and warrants further investigation.

UP.354
The Incidence of Venous Thromboembolism (VTE) following Major Urologic Surgery: A Population-based Analysis
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Introduction and Objectives: Postoperative VTE, which comprises deep venous thrombosis (DVT) and pulmonary embolism (PE), represent a preventable surgical complication and a major burden on the US healthcare system. The true incidence of VTE for major urologic surgery is poorly defined. We performed a population-based analysis to determine the incidence and predictors for VTEs following major urologic surgery.
Materials and Methods: Adult patients who underwent major urologic surgery (radical prostatectomy, radical cystectomy, radical nephrectomy or partial nephrectomy) and developed post-operative VTE between 2005 and 2010 based on ICD-9-CM codes from the nationally representative Perspective Database. The data was analyzed with multivariate weighted logistic regression models to identify independent predictors for post-operative VTE.
Results: Among our cohort with a weighted sample size of 709,294 patients, the highest rate of VTE was associated with radical cystectomy (5.33%), followed by radical nephrectomy (1.52%), partial nephrectomy (0.99%), and radical prostatectomy (0.60%). We identified independent risk factors for post-operative VTE for all major urologic surgeries. Consistently, we found length of stay greater than 2 days, high Charlson Comorbidity Score, male sex, and minimally invasive surgery to be associated with increased rates of VTE.
Conclusion: Post-operative VTE is relatively uncommon following major urologic surgery. Radical cystectomy had the highest incidence of post-operative VTE potentially due to the patient population, which is older and with more comorbidities. Identification of VTE risk factors for patients undergoing major urologic surgery may help urologists select appropriate VTE prophylaxis in this population.

UP.355
Digital Rectal Examination Standardization on Unexperienced Hands: An Easy, Intuitive and Effective Tool for the Generalist
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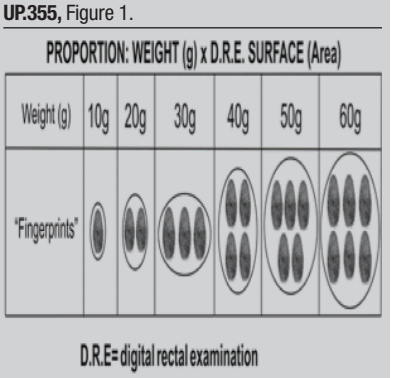
Introduction and Objectives: To standardize digital rectal examination (DRE) for unexperienced physicians and set how the proposed method correlates with the comprehensive evaluation of men presenting with lower urinary tract symptoms (LUTS).
Materials and Methods: Scaled standardization of clinical impression of prostate volume (PV) through DRE was developed based on fingertips graphical schema (10g for each fingertip prostate surface area on DRE), Figure 1. Four internists with no previous experience on DRE examined 48 male patients presenting with LUTS in an outpatient clinical setting, totalizing 12 DRE each. International prostate symptom score (IPSS), physical examination (DRE), serum PSA, transabdominal ultrasound (US) to measure PV and post-voiding residue and urodynamic evaluation ranking patients in obstructed, non-obstructed and inconclusive were compared to the proposed standardization on unexperienced hands.
Results: It was possible to establish a linear correlation of PV in DRE fingertips with sonographic and complementary evaluations with only 12 examinations. The mean and median prostate volume were: sonographic evaluation - 45 and 34.7 g (5.5 to 155g) and DRE - 39 and 37.5 g (15 to 80g). Patients mean age was 64.9 years, PSA values ranged from 1.2 to 5.4 (mean 4.3), mean IPSS was 13 (6 to 20) and mean post-voiding residue 70 ml (0 to 250 ml). Among patients classified as non-obstructed, inconclusive and obstructed, the sonography average PV were 29.8, 43.2 and 53.6g and DRE PV were 20, 35 and 60g, respectively.

UP.355, Figure 1.



Conclusion: Standardized DRE on unexperienced hands featured as an easy, effective and sufficient method of screening for therapeutic actions in men with LUTS. Compared to the studies on the issue to date, our results are pionering, focusing on unexperienced hands and priorizing the teaching-learning proccess. Important strengths are complete prostatic work up, prospective design, and the purpose of an easy and intuitive model for DRE.

UP.356
Accessible Interactive Electronic Library Using Moodle Platform Optimizes Urology Learning Process
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Introduction and Objectives: The medical school student is classically exposed to knowledge as spectators, inputting a very passive attitude, limiting the interaction between the teacher and students and the stimulus to learn at all levels. We propose and challenge an accessible interactive electronic library using Moodle platform to students' preparation for more interactive curriculums and active role of medical students and urologic trainees in the learning process.
Materials and Methods: Forty consecutive fourth-year medical students and 10 urologic trainees were exposed to Moodle (modular object oriented dynamic learning environment), an Open Source Course Management System, also known as a Learning Management System or a Virtual Learning Environment. The online interface delivered video surgeries and electronic urology clinical cases with additional basic principles of the disease process and fundamentals of evaluation and

management with the pertinent directed literature before face-to-face classrooms with the teacher. Additionally, we evaluated students' feedback regarding usage and qualitative utility of the Moodle.
Results: Teachers and students approved the method. A substantial proportion of students were moderately dissatisfied (30%) with their current knowledge base. The environment were classified as "easy and provocative", "making the learning process enjoyable". The access to the system was monitored and interestingly the weekends and holidays online activity were > 50%. Learning environment surveys were answered by over 70% and compared to the classical expositive curriculums, the students found Moodle platform as superior in: "encouraging and motivating learning", "arousing interest in the topic", "fostering the interaction between the teacher and students".
Conclusion: The accessible interactive electronic library using Moodle platform is feasible, effective, and enthuses learning. It should be expanded to other disciplines, improving latent deficiencies in the classic learning model, improving students' immersion and learning process according to their perspectives. Future studies should focus on objective evaluation of the knowledge acquisition.

UP.357

Bmi-1 Is a Significant Prognostic Biomarker Associated with Epithelial Mesenchymal Transition in Upper Urinary Tract Urothelial Carcinoma

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Introduction and Objectives: Epithelial-Mesenchymal Transition (EMT) Associated Genes are the important key players in cancer invasion and metastasis. Recently, Bmi-1 is reported regarding the potential regulator of stem cell renewal and association with EMT. That molecule has also been reported as an oncogene by regulating p16 and p19. This study aimed to investigate the expression levels of E-cadherin, Snail, Twist and Bmi-1 in human upper urinary tract urothelial carcinoma (UUTUC) tissues and assessed whether these factors can be used as a novel biomarker to predict prognosis in UUTUC.
Materials and Methods: Between January 1995 and December 2010, total nephroureterectomy was performed on a total of 144 patients and evaluable specimens were assessed. Median patient age was 71 years (range 14 to 98) and there were 104 males and 40 females. Median follow-up period was 40 months. Immunohistochemical analyses were performed to determine the expressions of E-cadherin, Snail, Twist and Bmi-1 with UUTUC.
Results: In clinical parameter, there were significant differences in overall survival (OS) and cancer specific survival (CSS) at grade (p=0.0125 and p=0.0175), stage (p=0.0012 and p=0.0029), lymphovascular invasion (LVI) (p=0.0070 and p=0.0063) and node status (p<0.0001 and p=0.002), respectively. Expression of E-cadherin was reduced with increasing tumor grade (p=0.0557). Positive Snail and Bmi-1 expression predicted worse OS (p=0.0075 and p=0.0035) and worse CSS (p=0.0919 and p=0.0085) and worse recurrence free survival (RFS) (p=0.0360 and p=0.0817), respectively. Cox proportional hazard test, including pathological grade, stage, LVI, E-cadherin, Snail, Twist and Bmi-1 expression, showed that Bmi-1 (p=0.0333) expression was the strongest prognostic factors in UUTUC. We tried to construct risk stratification and the combination of Snail, Bmi-1 and LVI was the useful prognostic biomarkers for UTUC.
Conclusion: These results suggest that EMT associated genes, such as Snail and Bmi-1, may be useful prognostic markers in UUTUC. Especially, Bmi-1 is a novel prognostic biomarker in UUTUC.

UP.358

Impact of Lymphovascular Invasion on Oncologic Outcomes at the Time of Radical Nephroureterectomy in Urothelial Carcinoma of the Upper Urinary Tract: Results from a French Collaborative Study

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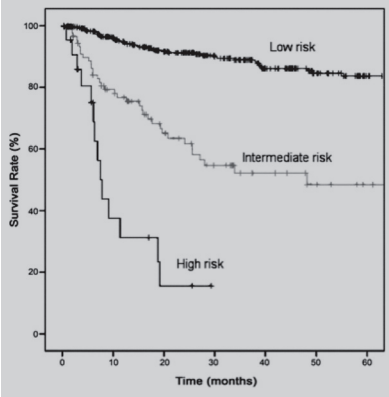
Introduction and Objectives: A prognostic role of lymphovascular invasion (LVI) was recently reported for urothelial carcinomas of the upper urinary tract (UUT-UCs). To assess the significance of LVI in a multicentre study on cancer-specific survival (CSS), recurrence-free survival (RFS) and metastasis-free survival (MFS); to demonstrate the deleterious impact for pN0/x patients and to stratify them in risk groups for metastatic relapse.
Materials and Methods: A multicentre retrospective study was performed on 746 patients who underwent a radical nephroureterectomy (RNU) between 1995 and 2010. Patients in whom the LVI status was not clearly mentioned were excluded from the study. Intervention: All patients had undergone RNU. Outcome measurements and statistical analysis: LVI status was evaluated as prognostic factor for survival using uni and multivariate Cox regression.
Results: Overall, 551 patients were included and were divided into 2 groups (LVI-, n=388 and LVI+, n=163). LVI+ status was correlated with high stage and grade UUT-UC and nodal involvement (p<0.001). The 5-years CSS and MFS were significantly worse in the case of LVI+ patients than in LVI- patients (52.2% vs. 84.5%, p<0.001 and 43.8% vs. 82.7%, p<0.001, respectively). In multivariate analysis, LVI+ status was an independent prognostic factor for CSS and MFS (p=0.04 and <0.001). These findings were confirmed for the pN0/x patient subgroup (n=504, p<0.001). In this subgroup, we described a prognostic tool for MFS based on independent factors that permitted us to stratify patients in high, intermediate or low risk of metastasis relapse. The retrospective design was the main limitation of this study.
Conclusion: A positive LVI status was a strong predictor of a poor outcome for UUT-UCs. When a lymphadenectomy has not been achieved, we advocate a focus

UP.358, Figure 1.



on LVI status to assess adjuvant therapeutic strategy intensification. The LVI status should be systematically reported by the pathologist for RNU specimens. Figure 1: Kaplan Meier curve for metastasis-free survival in pN0/x patient population stratified according to the three risk groups. The low-risk group is as follows: LVI- status, non-muscle invasive stage and R- status or patients with one of the three independent prognostic factors. The high-risk group is as follows: LVI+ status, muscle invasive stage and R+ status. All other patients were placed in the intermediate-risk group.

UP.359

Risk Stratification of Metastatic Recurrence in Invasive Upper Urinary Tract Carcinoma after Radical Nephroureterectomy without Lymphadenectomy

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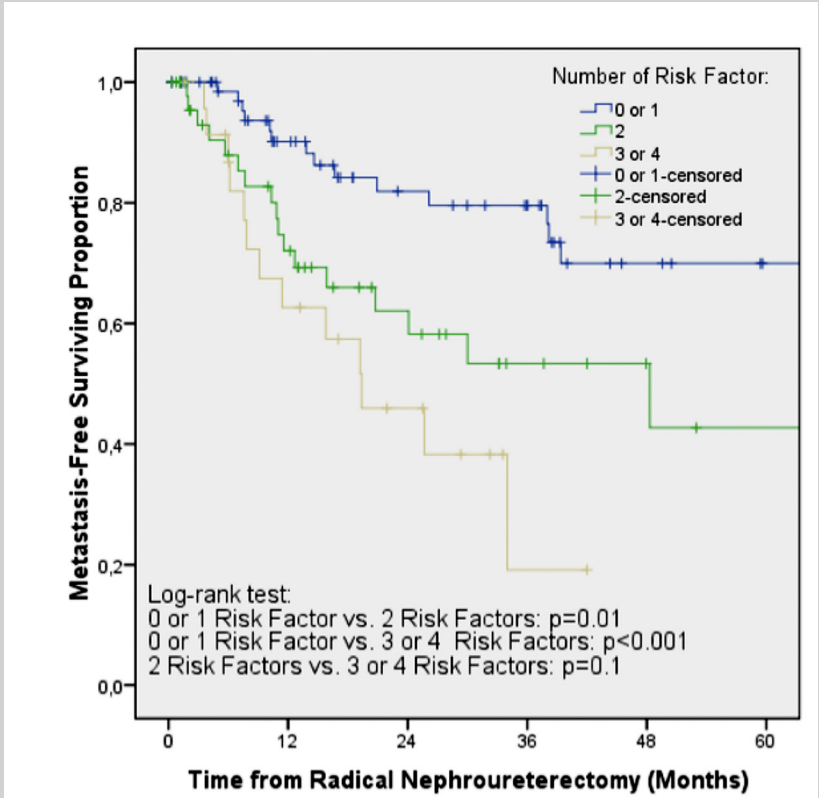
Introduction and Objectives: To assess the risk factors of metastasis relapse in pT2-3 upper tract urothelial carcinomas (UTUCs) treated by radical nephroureterectomy (RNU) without lymphadenectomy (LN).

Materials and Methods: A multicentric retrospective study was performed for pT2-3 pNx UTUCs treated by RNU between 1995 and 2010. The following criteria were retrieved, age, gender, ASA physical status, surgical approach, preoperative hydronephrosis, stage, grade, tumor location, surgical margin, lymphovascular invasion (LVI) status and outcomes. Metastasis-free survival (MFS) was measured by Kaplan-Meier method with the log-rank test.

Results: Overall 151 patients were included. The median follow-up was 18.5 months (IQR 9.5-37.9). The 2 years and 5 years MFS were 69% ±4.5 and 54.1% ±5.8, respectively. In univariate analysis, ureteral location, pT3 stage, positive LVI status and positive surgical margin were significantly associated with worse MFS (p=0.03; 0.02; 0.01 and 0.006, respectively). In the multivariate analysis ureteral location and pT3 stage were independent prognostic factors (p=0.03 and 0.03, respectively). Based on the results of the univariate analysis, we proposed a risk model predicting MFS, which classifies patients into 3 categories with different overall survival (p <0.001).

Conclusion: In view of our data, tumor location, T stage, LVI and surgical margin status are mandatory to predict survival in case of RN without LN. Contingent upon external validation, our risk model based on these variables could be useful to provide relevant information concerning metastasis relapse probability and necessity of close follow-up for these patients.

UP.359, Figure 1: Risk stratification of metastasis relapse for patients with UTUC classified pT2/pT3 pNx M0 after radical nephroureterectomy.



Number at risk

0 or 1 Risk factor	77	49	35	30	17	13
2 Risk Factors	50	27	16	8	5	3
3 or 4 Risk Factors	24	13	7	1	0	0

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Is Body Mass Index a Prognostic Factor for Upper Tract Urothelial Carcinoma Following Radical Nephroureterectomy in a Japanese Population? A Multi-Institutional Study

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Introduction and Objectives: To evaluate whether body mass index (BMI) can provide additional prognostic information

for patients with upper tract urothelial carcinoma (UTUC) in a Japanese population.
Materials and Methods: A total of 661 patients treated with radical nephroureterectomy (RNU) for UTUC at 9 Japanese institutions were included in the study. Associated patient outcome was analyzed using multivariate models. BMI was calculated based on individual weight and height at the time of surgery, and analyzed as a categorical variable (<18.5 vs 18.5-24.9 vs ≥ 25 kg/m^2) according to the criteria of the Japan Society for the Study of Obesity.
Results: Median patient BMI was 22.7 kg/m^2; 9% had a BMI <18.5 kg/m^2, 67% had a BMI between 18.5 and 24.9 kg/m^2, and 24% had a BMI ≥ 25 kg/m^2. Overall, only 2% had a BMI ≥ 30 kg/m^2, which is defined as obese by the World Health Organization. Patients with a BMI <18.5 kg/m^2 were significantly older and tended to have a higher pT stage and positive lymphovascular invasion in RNU specimens compared with those with a higher BMI. In multivariate analyses, however, the BMI level did not independently predict subsequent outcomes, including recurrence-free, cancer-specific mortality, and overall survivals following RNU.
Conclusion: Patients with a lower BMI tended to have worse pathological features such as a higher pT stage and positive lymphovascular invasions. However, the level of BMI itself was not an independent predictor for worse outcome in this Japanese population.

UP.361

Prognostic Factors and Outcomes after Definitive Treatment for Primary Urethral Carcinoma: Results from the International Collaboration on Primary Urethral Carcinoma

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Introduction and Objectives: Primary urethral carcinoma is a rare malignancy with an annual incidence of 1.1/1,000,000 in the United States. Therefore, treatment options and their impact on outcomes have not been well defined. The aim of the present study was to evaluate risk factors for survival in a large international cohort of patients with primary urethral carcinoma.
Materials and Methods: A total of 126 patients (82 men, 44 women) were diagnosed with primary urethral cancer between 1993 and 2012 in nine tertiary international academic centers. Descriptive statistics was used to investigate the role of tumor characteristics on treatment decisions. Kaplan-Meier analysis with log-rank test was used to investigate various potential prognostic factors for recurrence-free survival (RFS). A multivariate model was constructed to evaluate independent risk factors. The median follow-up of the cohort was 20 months (mean: 32 months; IQR: 4-48).
Results: Median age at definitive treatment was 63 years (IQR: 53-74). Histopathologic analysis demonstrated urothelial cell carcinoma in 63 patients (50%), squamous cell carcinoma in 34 (27%), adenocarcinoma in 18 (14%) and other histology in 10 (8%). Mixed histology was present in 18 patients (14%). Clinical tumor stage correlated highly with pathological tumor stage after definitive treatment (p<0.001). Patients with clinically advanced tumors were significantly more likely to undergo radical surgery (p=0.005) and perioperative chemotherapy (p=0.001). The 3- and 5-year RFS was 60.3% and 45.2%, and the 3- and 5-year overall survival 70.1 and 63.9%, respectively. In univariable analysis, advanced clinical/pathological stage (T3-T4 and/or N+) (p<0.001/0.001), node-positive disease (p<0.001), proximal tumor location (p=0.012), type of surgery (radical vs. urethral-sparing surgery; p<0.001) and receipt of perioperative chemotherapy (p=0.05) were associated with inferior RFS. No significant associations were found for age, gender, history of bladder cancer, nor underlying histology. In multivariable analysis, adjusted for significant parameters in univariate analysis, node-positive disease (p=0.016) and extent of surgery (p=0.013) remained independent predictors for inferior RFS.
Conclusion: Nodal stage is a critical parameter in primary urethral carcinoma since patients with node-positive disease exhibit significantly inferior survival. With regard to the high degree of concordance between clinical and pathological staging, multimodal treatment should be strongly considered for these patients.

UP.362

Clinical Efficacy of the Cytological Analysis of Upper Urinary Tract in Patients of Bladder Cancer with Class III or More from Bladder Urine Cytology

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Introduction and Objectives: To determine the clinical efficacy of the cytologic analysis of upper urinary tract in follow-up patients of bladder cancer with class III or more from bladder urine cytology.
Materials and Methods: Between 1998 and 2012, 249 follow-up patients (Mean age 71.5 years) of bladder cancer who had a class III or more from bladder urine cytology, underwent 3 times cytologic upper urinary tract analysis 1 day after placing ureteral catheter bilaterally. They also underwent bladder random biopsy including the prostatic urethral biopsy at same time. Surveillance was performed every 3 months with cystoscopy, cytology and imaging for the 2 years, and if negative, every 6 months thereafter.
Results: Positive selective cytology (class IV or more than two times) was detected in 52 patients (21%). Bladder cancer recurrence was diagnosed in 186 patients (75%). Thirty-five (19%) of these 186 patients had a positive cytology of upper tract. Bladder CIS was diagnosed in 50 patients. Thirteen (26%) of 50 with CIS had a positive cytology of upper tract. Twenty-two (16%) of 136 patients without CIS had a positive cytology of upper tract. In 221 patients without positive radiological findings, 31 (14%) had positive cytology of upper urinary tract. In 18 patients who had negative findings of radiological and cystoscopic examinations, 2 (11%) had a positive cytology of upper tract and 5 (28%) had a bladder CIS. BCG instillation using retrograde catheterization and vesicoureteral reflux was performed in 37 patients and negative selective cytology was obtained in 36 of 37 patients (97%).
Conclusion: Urothelial cancers of upper urinary tract are uncommon and account for only 5–10% of urothelial carcinomas. In 8–13% of cases, concurrent bladder cancer is present1. In the present study, 21% of patients who was followed their bladder cancer had a suggestion of malig-

nancy at upper urinary tract. BCG instillation of upper urinary tract achieved negative cytology in 97% of patients. Therefore, the examination of upper urinary tract should be considered for follow-up patients of bladder cancer when their cytology showed class III or more from bladder urine sample. This study demonstrates the efficacy of cytological analysis of upper urinary tract in follow up patients of bladder cancer with class III or more from bladder urine cytology.

UP.363

Prognostic Factors in Conservative Treatment of Upper Urinary Tract Urothelial Tumours

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Introduction and Objectives: The standard treatment for upper urinary tract urothelial cell carcinoma (UUT-UCCs) is radical nephroureterectomy with bladder cuff excision. The purpose of this study was the retrospective analysis of the factors that can influence the prognosis of the patients with UUT-UCCs who underwent endoscopic treatment.
Materials and Methods: We identified 187 patients who were diagnosed and treated for UUT-UCCs between 1998 - 2012 at the Urology Department of St. John's Clinical Emergency Hospital Bucharest. The endoscopic treatment was used in 65 cases. Tumor ablation was performed using electroresection or Nd:YAG laser. The mean follow-up period was 60 months (range between 6 and 120 months). The follow-up protocol included computed tomography or intravenous urography, urinary cytology (selected cases), cystoscopy and ureteroscopy. The recurrence rates were reviewed by retrospective analysis.
Results: During follow-up, 31 patients (47.6%) presented upper urinary tract recurrence. In 20 cases (30.7%) bladder recurrence was present. Eighteen patients (27.69%) underwent subsequent nephroureterectomy. The survival rates without recurrence at 1, 3 and 5 years were 61% (40 patients), 55.3% (36 patients) and 52.3% (34 patients). The most significant prognostic factors were: history of bladder tumour, tumour location and size, tumour stage and grade. The recurrence rate for pyelocaliceal tumours was 53.84% (21 out of 39 cases) and only 45.45% (10 out of 26 cases) for ureteral tumours. The recurrence rate for low-grade tumours was 36.36% (16 out of 44 cases) and 71.42% (15 out of 21 cases) for high-grade tumours. The tumours over 1.5 cm were associated with a higher recurrence rate compared with tumours below 1.5 cm (64.2 versus 43.13%).
Conclusion: The most important prognostic factors for UUT-UCCs evolution are tumours location, size and mostly tumour grade. The patients' compliance is very important for detecting recurrences.

UP.364

The Value of Transrectal Ultrasonography in Distinguishing the Bladder Tumors Located on the Orifice and Terminal Ureteral Tumors Protruding through the Orifice

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Introduction and Objectives: The current value of transrectal ultrasonography (TRUS) in the diagnosis of bladder tumors (BT) is relative, in the presence of modern imaging and endoscopic techniques. However, TRUS can be useful to discriminate BT located on the orifice and terminal ureteral tumors (TUT) protruding through the orifice.
Materials and Methods: From September 2008 to October 2012, 26 patients with masses located on the orifice and ipsilateral ureterohydronephrosis underwent cystoscopy, computerized tomography (CT), or CT-urography and TRUS. There were 17 patients with BT and nine patients with TUT.
Results: In discriminating between BT and TUT, cystoscopy was accurate in 31%, while CT and TRUS were both accurate in 92%.
Conclusion: TRUS represents useful simple and non-invasive diagnostic method in distinguishing BT located on the orifice and TUT protruding through the orifice.

UP.365

Risk Group Stratification Based on Preoperative Factors to Predict Survival after Nephroureterectomy in Patients with Upper Urinary Tract Urothelial Carcinoma

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Introduction and Objectives: After radical nephroureterectomy (RNU) in clinically non-metastatic upper urinary tract urothelial carcinoma (UUT-UC), a significant proportion of patients experiences disease recurrence and subsequently dies from metastatic UUT-UC. Final pathological T stage, tumor grade, lymph node involvement, and lymphovascular invasion are thought to be prognostic factors for UUT-UC. This information could help select appropriate patients for additional therapeutic modalities, such as adjuvant chemotherapy. However, substantial numbers of patients with UUT-UC are ineligible for adjuvant chemotherapy due to diminished renal function after RNU. Accurate preoperative prediction of survival is considered important because neoadjuvant chemotherapy may be as effective for high-risk UUT-UC as for muscle-invasive bladder cancer. Therefore, we performed risk group stratification to predict survival based on specific preoperative factors.
Materials and Methods: We enrolled 536 Japanese UUT-UC patients treated with RNU in this retrospective cohort study and assessed preoperative clinical and laboratory variables influencing disease-specific survival.
Results: The median follow-up was 40.9 months. Using univariate analysis, tumor location; number of tumors; hydronephrosis; clinical T stage; clinical N category; voided urine cytology; neoadjuvant chemotherapy; hemoglobin; and white blood cell (WBC) counts had a significant influence on disease-specific survival ($P < 0.05$). Multivariate analysis revealed that clinical T stage, voided urine cytology, and WBC were independent predictors ($P = 0.016$, $P = 0.0017$, and $P = 0.038$, respectively). We divided patients into three risk groups based on the number of the three independent predictors: 0, low risk; 1, intermediate risk; 2 and 3, high risk. Significant differences in disease-specific survival were found among these risk groups ($P \leq 0.0035$).
Conclusion: Clinical T stage, voided urine cytology, and WBC counts were independent preoperative predictors for disease-specific survival after RNU in Japanese UUT-UC patients and the risk group stratification based on these factors was useful for predicting survival. This risk group stratification may help select UUT-UC patients for neoadjuvant chemotherapy and the predictive laboratory measurements are easily performed with minimal patient discomfort. Prospective studies in a larger number of patients with a longer follow-up period are needed to confirm the predictive significance of our results.

UP.366

Lymphovascular Invasion as a Prognostic Factor in the Upper Urinary Tract Urothelial Carcinoma: A Systematic Review and Meta-analysis

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Introduction and Objectives: The objective of the present study was to conduct a systematic review and meta-analysis of the published literature investigating lymphovascular invasion (LVI) and its effects on upper urinary tract urothelial carcinoma (UTUC) prognosis.
Materials and Methods: To identify relevant studies, PubMed, Cochrane Library, OVID, and SCOPUS database were searched from the inception until June 2012.
Results: A total of 17 trials met the eligibility criteria for the meta-analysis. The total number of patients included was 4,896, ranging from 60 to 2,492 per study. None of the 17 included studies was based on the data of prospective analysis of survival. In 13 of 17 studies, patients had received adjuvant chemotherapy. Despite our attempts to limit the between-study heterogeneity through a strict inclusion criteria, there was a between-study heterogeneity in the effect of LVI on all of the meta-analyses, with a p value of <0.05 and I2 generally greater than 50%. Thus, the hazard ratio (HR) was calculated using the random-effect model. The pooled HRs were statistically significant for disease-free survival (pooled HR, 1.91; 95% confidence interval [CI], 1.40-2.41), cancer-specific survival (CSS) (pooled HR, 1.72; 95% CI, 1.28-2.71), and overall survival (pooled HR, 4.05; 95% CI, -0.44-8.53). There was no clear evidence of funnel plot asymmetry, and thus, no evidence of publication bias was found.
Conclusion: Our meta-analysis showed that LVI is predictive of mortality in UTUC. However, these findings should be interpreted with caution due the heterogeneity in the series. These results need to be further confirmed by an adequately designed prospective study to provide a better conclusion on the relationship between LVI and the outcome of patients with UTUC.

UP.367

Clinical Evaluation of Urinary NMP22 Bladderchek in the Detection of Patients with Upper-tract Urothelial Cancer

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Introduction and Objectives: The Bladderchek NMP22 test was studied to whether it could be a useful diagnostic tool for upper-tract urothelial cancer. We report clinical evaluation of urinary NMP22 bladdercheck in the detection of patients with upper-tract urothelial cancer.
Materials and Methods: During of the period from 2006 to 2013, a total of 51 patients who had abnormal findings on imaging, IVP, CT, RP etc with microscopic or gross hematuria were subjected to analysis in comparison with urine cytology, excluded patient with complete urinary tract obstruction. The clinical diagnosis was made by cystoscopy, abdominal CT scanning, ultrasonography, IVP, retrograde pyelography or ureteropyeloscopy.
Results: The positive rate was 82.1% for The Bladderchek NMP22 test, and 24.2%, 30.1% for urine cytology, selective urine cytology, respectively ($p<0.01$). Additionally the positive rate was 93.2% in the combination of the Bladderchek NMP22 test with urine cytology. For low grade, NMP22 demonstrated a higher positive rate 78.5% than urine cytology.
Conclusion: The urine NMP22 Bladderchek test provided a higher positive rate than urinary cytology in the diagnosis of patients with ureteral and renal pelvic cancer.

UP.368

Prediction of True Nodal Status for Patients with Pathologic Lymph Node-negative Upper Tract Urothelial Carcinoma at Radical Nephroureterectomy

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Introduction and Objectives: Up to 30% of patients with muscle-invasive UTUC have metastasis to the regional lymph nodes (LNs), which represents a powerful prognostic factor for unfavorable outcomes. While lymphadenectomy improves tumor staging, its therapeutic benefit remains controversial. Knowledge of the true LN status, therefore, is important as it influences patient counseling and, more importantly, clinical decision-making regarding follow-up scheduling and adjuvant chemotherapy. We aimed to develop a pathological nodal staging model that allows quantification of the likelihood that a pathologically node-negative patient has, indeed, no lymph node metastasis (LNM).
Materials and Methods: From 1994 to 2007, 2681 patients underwent RNU for UTUC at seven institutions worldwide. Amongst this cohort, 814 (30%) underwent a lymph node dissection (LND) during RNU and were included in the analyses. We hypothesized that the true nodal status could be accurately predicted based on the number of LN examined and selected pathologic features. We estimated the sensitivity of pathologic nodal staging using a beta-binomial model and developed pathologic nodal staging score, which represents the probability that a patient is correctly staged as node-negative.
Results: The median number of LN removed was 5 (range: 1-46), 73% of the patients (n=593) were pN0. The probability of missing LNM decreased as the number of nodes examined increased. If only a single node was examined, 44% of patients would be misclassified as pN0 while harboring LNM. Even when 5 nodes were examined, 12% would be misclassified. The proportion of having a positive node increased with advancing pathological T-stage and presence of lymphovascular invasion (LVI). Patients with pT0-Ta-Tis-T1/LVI- will have more than a 95% chance of a correct pathologic nodal staging with two examined nodes. However, if a patient has pT3-T4 and LVI+, even 20 examined LN did not reach 95% accuracy.
Conclusion: We developed a user-friendly tool (pNSS) which predicts the probability that a patient with pathologically confirmed negative LNs is free of occult LN metastasis based on pT-stage, the presence (or absence) of LVI and the number of LNs analyzed. Our results indicate that every patient undergoing RNU for UTUC needs a LND. There is a spectrum of probability of accurate LN staging based on the number of LNs examined and standard pathological features. Our model could be effectively incorporated into clinical practice.

UP.369

Impact of Renal Function on Eligibility for Chemotherapy and Survival in Patients Who Underwent Radical Nephroureterectomy

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Introduction and Objectives: In upper tract urothelial carcinoma (UTUC) patients whose disease is detected at a point where surgical cure is possible but risk of disease recurrence remains high (≥pT3 and/or lymph node metastasis), chemotherapy has been considered as adjuvant therapy after radical nephroureterectomy (RNU). However, the timing of chemotherapy in UTUC is under debate as RNU affects renal function and thereby eligibility for adjuvant chemotherapy, reinforcing the debate on neoadjuvant regimens. The aim of our study was to report (1) the baseline estimated glomerular filtration rate (eGFR) and the changes in patients undergoing RNU for UTUC; to report (2) the effect of RNU on eligibility for cisplatin-based chemotherapy based on the change of eGFR; and to evaluate (3) the association of preoperative, postoperative and rate of change of renal function parameters with oncological outcomes and overall survival.
Materials and Methods: We performed a retrospective analysis of 666 patients treated with RNU for UTUC at 7 international institutions from 1994 to 2007. eGFR was calculated at baseline and at 3-6 months (MDRD and CKD-EPI equations).
Results: Median eGFR decreased by 18.2% (IQR: 8-12) after RNU. 37% of patients had a preoperative eGFR ≥60, which decreased to 16% after RNU ($p<0.001$); 72% of patients had a preoperative eGFR ≥45, which decreased to 52% after RNU ($p<0.001$). The distributions were similar when analyses were restricted to patients with locally advanced disease (pT3-pT4) and/or lymph node metastasis. Patients older than the median age of 70 yr were more likely to have a decrease in eGFR after RNU ($p<0.001$). None of the renal function parameters was associated with clinical outcomes such as disease recurrence, cancer-specific and overall mortality. However, when analyses were restricted to patients who had no adjuvant chemotherapy and did not experience disease recurrence (n=431), a preoperative eGFR ≥60 ($p=0.03$) and a postoperative eGFR ≥45 ($p=0.04$) were associated with better overall survival in univariable analyses.
Conclusion: Only a limited proportion of patients had a preoperative renal function that would allow cisplatin-based chemotherapy. Moreover, eGFR significantly decreased after RNU, thereby lowering the rate of cisplatin eligibility to only16% and 52% of patients based on the cut-offs at 60 and 45, respectively. Taken together with the rest of the literature, our findings support the use of cisplatin-based chemotherapy, when indicated, in the neoadjuvant rather than adjuvant setting.

UP.370
Prediction of Intravesical Recurrence after Radical Nephroureterectomy: Development of a Clinical Decision-making Tool

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Introduction and Objectives: Intravesical recurrence after radical nephroureterectomy (RNU) is a frequent event requiring intense cystoscopic surveillance. Recently, a prospective randomized clinical trial has shown that a single postoperative dose of intravesical mitomycin C reduces the absolute risk of intravesical recurrence after RNU. The aim of the current study was to identify predictors of intravesical recurrence and to develop a tool to allow a risk-stratified approach in order to help patient counseling towards cystoscopic surveillance and postoperative intravesical mitomycin C administration.
Materials and Methods: We performed a retrospective analysis of 1839 patients treated with RNU for UTUC. The dataset was split into a development cohort of 1261 patients from North America and a validation cohort of 578 patients from Europe. Univariable and multivariable Cox regression models addressed time to intravesical recurrence after RNU. We developed a nomogram for prediction of the probability of intravesical recurrence at 3-, 6-, 9-, 12-, 18-, 24-, and 36-months. Predictive accuracy was quantified using the concordance index. Decision curve analysis was performed to evaluate the clinical benefit associated with the use of our nomograms.
Results: Within a median follow-up of 45 months, intravesical recurrence occurred in 577 patients (31%). The probability of intravesical recurrence-free survival at 6-, 12-, 24-, and 36-months were 85%±1, 78%±1, 68%±1, and 47%±2, respectively. In multivariable Cox regression analysis, advanced age, male gender, ureteral tumor location, laparoscopic surgical technique, endoscopic distal ureteral management, previous bladder cancer, higher tumor stage, concomitant CIS and lymph node involvement were all significantly associated with intravesical recurrence (p-values≤0.04). The nomograms were highly accurate for predicting intravesical recurrence in the external validation cohort (c-indexed of 67.8 and 69.0% for the reduced and the full model, respectively) and calibration plots revealed only minor overestimation beyond 24 months.
Conclusion: Intravesical recurrence after RNU is a common event in patients with UTUC. We developed nomograms that predict intravesical recurrence after RNU with reasonable accuracy. Such nomograms may improve the clinical decision-making process regarding postoperative intravesical instillations of mitomycin after RNU.

UP.371
The Outcome with Ureteral Stents for the Management of Non-Urological Malignant Ureteric Obstruction

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Introduction and Objectives: The aim of this study was to analyze the clinical outcomes of ureteric stents for managing extrinsic malignant ureteral obstruction in advanced non-urological malignancies.
Materials and Methods: From April 2004 to March 2011, among 187 patients with an indwelling retrograde ureteral stent for ureteral obstruction due to non-urological malignancies, 106 with malignant ureteral obstruction were analyzed retrospectively.
Results: Median overall survival was 412 days. There was not a significant difference among cancer groups. A total of 21 (20%) had failure of retrograde ureteral stent insertion and 28 (27%) had stent failures during the subsequent follow up. The risk of failure for stent insertion significantly increased with the presence of bladder invasion (hazard ratio 19.01, $p<0.001$) and tumor volume>200cc (hazard ratio 5.34, $p=0.032$). Gynecologic cancer was a significant favorable predictor of stent failure free survival ($p=0.031$), although cervical adenoma and non-serous ovarian cancer were

significantly unfavorable predictors ($p<0.001$, $p=0.022$).
Conclusion: Analysis of data revealed cervical adenoma and non-serous ovarian cancer as predictors of ureteral stent failure.

UP.372
Qualitative Assessment of Quality of Life along Time in Patients with Bricker Ileal Conduit after Radical Cystectomy
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Introduction and Objectives: Not so many studies have been dedicated to the trajectory of QoL along time in patients with Bricker ileal conduit urinary diversion after radical cystectomy. The present study aims at evaluating QoL of patients at 1, 3, 5, 7-year follow-up (FU) and its interaction with clinical variables.
Materials and Methods: We administered 30 narrative-based interviews to patients with radical cystectomy at 1, 3, 5, 7-year FU from three northern Italian urology units. Patients were asked to compare the steps of their experience with stoma as far as QoL was concerned. Seventeen male and thirteen female patients were interviewed, minimum age being 65 and maximum age 94. The interview guide was constructed evoking the disease trajectory as follows: diagnosis, treatment, surgery; rehabilitation (physical, mental, social); changes of major impact; feelings of shame, embarrassment and rejection; (re) organization of daily routines and time, self-image and self-esteem; family relationships, emotional and sexual relationship, work, friendship relationship and behaviour in public. Interviews (audio-recorded and then verbatim transcribed) were analysed with Atlas.ti software.
Results: Participants underlined 4 factors as crucial for QoL increase/decrease: concern about urinary leakage and detachment of the bag; (frequent) episodes of detachment of the bag resulting in reluctance to go outside; fear of losing partner (wife or husband) who usually provide assistance in everyday dealing with stoma; QoL complications worsening with age related to stoma management: hernias, infections, gaining weight, etc. Additional concerns for a bad QoL were: reliance on partner for stoma management, fear of emanating odour of urine, giving-up with friendship and social relations. Surprisingly enough no patients referred to body image problems related to the bag. Because of such crucial factors respondents at 1 to 3-year FU said their previous life times were completely lost. Instead QoL was much better in patients at 5-year FU (than in the post-surgery period); Qol as to stoma is still good at 7-year FU though other problems took-over in patients concerns (hernias, kidney infections, obstructions to the stoma); same was for patients beyond 7-year FU where awareness of general deterioration due to age increases.
Conclusion: Qol improves along with the timeline of the disease trajectory. After 5 years Qol stabilizes at acceptable levels as far as bearing a stoma tends to become a real routine. Clinicians must take into consideration the basic mechanisms/factors and that timing in order to better interpret QoL outcomes in urology. In addition the presence of the 4 determinants should be ascertained when QoL measurement instruments had to be selected for a trial on QoL with such patients.

UP.373
A New Technique for the Removal of a Retain Urinary Catheter
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Introduction and Objectives: The Ndola central Hospital in the Copperbelt Province in Zambia is the second largest hospital in Zambia. It is a provincial hospital catering for a catchment population of over 4million people. Bladder catheters are commonly used in many urological operations. Up to 10-15% of these catheters may fail at removal. The low number of urologists in many developing countries results in long waiting lists and prolonged catheterizations in patients. The primary objective was to determine the success rate of perineal puncture in removal of retained urinary catheters. The secondary objective was to determine the rate of retained catheters in men with retained catheters attending a busy urology outpatient clinic in a provincial hospital in Zambia
Materials and Methods: All patients attending the Urology clinic at the Ndola Central Hospital in Copperbelt province with catheters were included in the study. The study period was from the 1st June 2011 to 31st May 2012. All patients who on two attempts at removal of the catheter by the consultant urologist had failure were categorized as retained catheters. A simple outpatient procedure was designed for catheter removal. The patient was placed in lithotomy position with the perineum exposed. The peri urethral area was infiltrated with 5mls of 2% lignocaine. Traction was applied on the catheter perpendicular to the bed. A 10cm long 18G needle on a 10 ml syringe was inserted paraurethrally at the mid-point of the two ischial tuberosities and the plunger withdrawn. This deflated the retained balloon catheter.
Results: There were 345 patients seen in the clinic. The male female ratio was 5:1. There were 147 patients with catheters. Of these, 38 patients had retained catheters. There was an 85% success rate of catheter removal by the perineal technique.
Conclusion: The study found a 25% rate of catheter failure. Using a perineal technique the success rate for removal was 85%. The technique was simple and low cost, with minimal skill required in removal.

UP.374
Initial Experience with Self-Expandable Metallic Ureteral Stent in Patients with Severe Ureteral Obstruction following Attempted Conventional Double-J Ureteral Stent Insertion
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Introduction and Objectives: Self- expandable metallic ureteral stents are a relatively new version of a device with a long history of relieving ureteral obstruction. We present our clinical experience on the newly developed self-expandable metallic ureteral stent (Niti-S, TaeWoong Medical, Korea).
Materials and Methods: The patients who underwent self-expandable metallic ureteral stent insertion from Jan to Dec 2011 were included in our study. Under general anesthesia, ureteral stent insertion with the new device was performed using 20 Fr. cystoscopic sheath and 30 degree telescope under fluoroscopic examination. Data collected included patient age, gender, diagnosis/cause of obstruction, laterality, duration of indwelling metal stent, complications and early removal, patency rate and recurrence of obstruction.
Results: A total of ten patients (7 with obstruction due to malignancy and 3 with

history of radiotherapy), who with 16 ureteral units underwent self-expandable metallic ureteral stent insertion between January and December, 2011. Mean age of ten patients was 52.2±11.6 years and bilateral stents were placed in 6 patients. Mean duration of indwelling stent was 259.9±132.9 days. In 16 ureteral units, patency rate for 1 year was 87.5% (14 cases). Number of cases of stent dysfunction was 2 ureteral units in one patient because of a downward migration of self-expandable metallic ureteral stent. Complications included 3 cases of postoperative hematuria and 2 cases of flank pain in ten patients. However, no patient had urinary tract infection or stone disease.
Conclusion: Self-expandable metallic ureteral stents are effective for ureteral obstruction secondary extrinsic compression from malignancy and complications related to radiotherapy when insertion of conventional JJ stents has failed or ceased to function. Our initial experience showed that self-expandable metallic ureteral stent insertion could be performed in selected patients with ureteral obstruction for maintenance of renal function and to improve quality of life instead of nephrostomy.

UP.375
A Management Algorithm for Mitomycin-C (MMC) Induced Cystitis
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Introduction and Objectives: A post-resection dose of MMC can reduce stage Ta/T1 bladder cancer recurrences by up to 40%. Up to 20% of patients experience complications from this treatment, though, most commonly an aseptic cystitis. There is currently no established treatment algorithm for MMC-induced cystitis.
Materials and Methods: Members of the Urologic Surgery Quality Collaborative (USQC) devised a treatment algorithm based on expert opinion to aid in the diagnosis and management of MMC-induced cystitis. This involves sequential escalation of the evaluation and treatment of MMC-induced cystitis and has been disseminated and implemented in USQC practices.
Results: The assessment begins with a urinalysis and culture, followed by cystoscopy to rule out bladder perforation. Behavioral therapy, including timed voids, fluid restriction and Kegal exercises is initiated. If symptoms have not resolved, a 2-week course of antihistamine is prescribed, followed by a combination of long-acting anticholinergic and alpha-blocker medications for an additional 2 weeks. For persistent symptoms, a 2-week course of daily 40mg prednisone with a 6 day taper plus antihistamine is prescribed. If symptoms do not resolve with these measures, any visible bladder ulcerations are resected followed by a 2nd course of steroid and antihistamine. For refractory symptoms, intravesical DMSO followed by hyperbaric oxygen can be used.
Conclusion: We present an algorithm for the treatment of MMC-induced cystitis.

UP.376
Comparison of Clinical Factors, Surgical Complications, Functional Results and Quality of Life between Four Different Urinary Diversions
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Introduction and Objectives: We present a single hospital experience with four urinary diversions after radical cistectomy, comparing clinical factors, complication rates, metabolic complications, functional results, and post surgical quality of live (QoL) score.
Materials and Methods: Between April 2002 and November 2012, 72 consecutive radical cystectomies (56 males and 16 females) were performed in our Institution. Four different diversions were offered: Ileal Conduit (IC): 17 patients, Heterothopic Neobladder (HN):11 patients, Orthotopic Neobladder (ON): 37 patients and Seminal Sparing Cystectomy (SSC): 7 patients. All procedures were performed by the same surgeon (MNG). Each patient had a protocol for prospective analysis of different variables, and answered retrospectively the QLQ-C30 Quality of Life questionnaire, created by the European Organization for Research and Treatment of Cancer (EORTC).
Results: In 43% of the patients, early complications occurred: SSC 40%, ON 41%, HN 44%, IC 47%. Even though the differences, there were no independent significative variables described. The rate of late complications was 49% (SSC 39%, IC 41%, ON 47%, HN 61%). There was only a significant difference in the late complications of the heterothopic diversion, compared with the other diversions ($p < 0.01$). There was no significant association between age, ASA, tumoural stage, gender and diversion related complication rates. Metabolic changes were found in 24 % of the series: 18% after SSC, 23% after ON, 24% after IC and 26% after HN ($p > 0.01$). Complete daytime and nighttime continence was achieved in 87% and 75% after HN respectively; 94% and 81% after ON; and 94% and 85% after SSC. The impact on QoL was acceptable for daytime life. The QLQ-C30 showed a significantly better acceptance in the SSC and ON (score 2/7 y 3/7 respectively), versus HN and IC (score 4/7 and 5/7 respectively).
Conclusion: Urinary diversion after radical cystectomy persists as a surgical procedure with considerable morbidity. The orthotopic diversion has more general complications, but better functional results and a higher approval by the patients than and HN and IC. We found no evidence that age, gender, ASA score, TNM stage (extravesical tumour growth and positive lymph nodes) were contraindications per se for any diversion.

UP.377
Comparison of Urinary Outcomes in Suture-line versus Neo-orifice Anastomotic Types in the Studer Neobladder
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Introduction and Objectives: Studer and other investigators have postulated the negative effect of the "funnel-shaped" outlet resulting from utilizing the inferior aspect of the anterior neobladder wall closure for the urethral anastomosis. This technique has been linked to dysfunctional voiding. We aimed to compare the functional results of the two anastomotic types, the "funnel-shaped" or suture line and the neo-orifice technique.
Materials and Methods: We reviewed the records of patients who underwent a Studer ileal neobladder reconstruction from 1/1/2000 to 5/30/2012 at our institution. In addition to demographic information, the charts were evaluated for anastomotic leak on post-operative cystogram, urinary incontinence (day and/or night), urinary retention and subsequent procedures to correct incontinence or outlet obstruction. Incontinence was defined as any leakage between regularly scheduled voids.
Results: A total of 363 of 465 patients met the inclusion criteria of follow-up greater than 6 months. The majority were male, 90.6% (n=329), with a mean age at

cystectomy of 59.7 years. Mean follow-up was 49 months (range, 6.1 - 138.7). Urethral anastomotic technique was divided between suture line and neo-orifice, 47% and 53%, respectively. Any urinary incontinence was identified in 41.8% of patients at last follow-up, with 20.3% reporting daytime incontinence and 39.2% complaining of nighttime incontinence. Surgical intervention for urinary incontinence was performed on 23 patients (6.4%) including artificial urethral sphincter (15), male sling (4), ileal conduit/catheterizable diversion (3), and transurethral injection (1). There was no significant difference in regards to urinary incontinence, day or night, with respect to anastomotic type (p=.241) [RR= 1.158095, 95% CI .9080939 - 1.476923]. Urinary retention occurred in 16% of patients, with surgical intervention required in 3.3%. No significant difference was seen in this outcome in regard to type of anastomosis (p=0.247) [RR=1.36, 95%CI .845764 - 2.195388]. Suture line anastomoses were more likely to have a leak identified on cystogram (24.1 vs. 15.2%, p=0.033, RR=1.59, 95% CI: 1.036366 - 2.430309).
Conclusion: Our data showed no significant difference in urinary functional outcomes – incontinence and retention – when comparing these two anastomotic types. However, the suture-line technique was shown to have a higher risk of anastomotic leak.

UP.378
The Influence of Pre- and Post-Op Stents and Neoadjuvant Chemotherapy on Neobladder Patients Postoperative Urinary Leak Rates
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Introduction and Objectives: In patients undergoing radical cystectomy, appropriate candidates are selected for neobladder urinary diversion. Urinary leakage from the anastomoses is a postoperative complication. Any maneuvers to prevent this occurrence would reduce morbidity in these patients. We hypothesized there would be no difference in urinary leak rate (ureteroenteric or urethrovesical anastomotic leak) in patients post neobladder, who had indwelling urinary diversion stents versus those patients who did not have stents in place at the time of first postoperative cystogram, generally 3 weeks postoperatively.
Materials and Methods: We retrospectively reviewed a single institution database of neobladder patients who underwent cystectomy between 1/1/2000 and 8/31/2010. We extracted patient demographics including administration of neoadjuvant chemotherapy and presence of preoperative stents. The first postoperative cystogram was evaluated to identify the presence of ureteroenteric or urethrovesical urinary leakage and the presence of urinary diversion stents at the time of cystogram. Patients with no postoperative cystogram or no data on presence of urinary diversion stents at first cystogram were excluded. Statistical analysis was performed using STATA/SE v. 12.1 using descriptive statistics, T−test (or One−way ANOVA) and Pearson's chi−square test (or Fischer's exact test) to determine if there were significant differences between groups.
Results: Of the 405 patients in the neobladder database, the average age was 60 (range 32-80 years). The mean follow-up was 43 months (range 0.2 to 142). Thirteen patients had missing data for anastomotic leakage. Thirty two patients had missing data for ± urinary diversion stents on first cystogram. Preoperative stents, neoadjuvant chemotherapy and postoperative stents did not affect ureteroenteric or urethrovesical leak rates on first postoperative cystogram (see Table 1).
Conclusion: There is no conclusive evidence to support that the preoperative stents, neoadjuvant chemotherapy, or prolonged postoperative urinary diversion stents, influence the development of urinary leakage in the postoperative period.

UP.379
A Device Used During Peritoneal Wall Anchor Technique Which Employs a Suture Ligature Device for Deep Surgery (Maniceps™) When Placing a Peritoneum Dialysis Catheter
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Introduction and Objectives: Malposition of the peritoneum dialysis catheter (PD catheter) is a complication leading to a functional disorder of the PD catheter which often occurs at an early period following the commencement of peritoneal dialysis. The peritoneal wall anchor technique (PWAT), which involves fixing the catheter to the anterior abdominal wall, is carried out as a method for preventing malposition of the PD catheter; however, we hereby report on our study in which good results were obtained using the suture ligature device for deep surgery, Maniceps™ (MANI,INC.JAPAN) as opposed to PWAT.
Materials and Methods: A vertical incision measuring approximately 5 cm in length was made to the right side of the abdomen under normal local anesthesia or lumbar anesthesia to expose the peritoneum; subsequently, a small incision was made into the peritoneum and a loop was made with a nylon thread to

UP.378, Table 1. Ureteric and Urethral Anastomotic Leak Rates of First Postoperative Cystogram.

		Ureteric Anastomotic Leak		P value
		No	Yes	
Preop Stents	No	362 (97.8%)	8 (2.2%)	0.99
	Yes	22 (100%)	0 (0%)	
Neoadjuvant Chemotherapy	No	266 (98.9%)	3 (1.1%)	0.11
	Yes	117 (95.9%)	5 (4.1%)	
Postop Stents	No	197 (98.5%)	3 (1.5%)	0.48
	Yes	167 (97.1%)	5 (2.9%)	

		Urethrovesical Anastomotic Leak		P value
		No	Yes	
Preop Stents	No	290 (78.4%)	80 (21.6%)	0.59
	Yes	19 (86.4%)	3 (13.6%)	
Neoadjuvant Chemotherapy	No	210 (78.1%)	59 (21.9%)	0.61
	Yes	98 (80.3%)	24 (19.7%)	
Postop Stents	No	159 (79.5%)	41 (20.5%)	0.80
	Yes	134 (77.9%)	38 (22.1%)	

the anterior abdominal wall using Maniceps™ from the peritonectomy site to the furthest caudal side possible (3-4cm). The PD catheter was inserted towards the pelvic bottom from the peritonectomy site via the nylon loop, the nylon loop was ligated outside the peritoneum, and the PD catheter was fixed to the anterior abdominal wall.Although the use of Maniceps™ was commenced in December 2009, PWAT was carried out on 18 patients within the 3 years until December 2012 excluding 2 patients in which PWAT was difficult to perform due to excess visceral fat.

Results: Malposition of the PD catheter tip was observed twice within the average postoperative follow-up period of 14 months (2 months to 34 months); however, both of these malpositions naturally improved at an early phase. Moreover, no complications were observed accompanying PWAT when using Maniceps™.

Conclusion: PWAT is a useful method for preventing malposition of the PD catheter. PWAT using Maniceps™ is easy to maneuver and it is thus considered to be a useful PD catheter insertion method.

UP.380

Efficacy and Complications of the ArgusT-Sling

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Introduction and Objectives: In recent years, several male slings for the treatment of male stress urinary incontinence (SUI) were introduced. The ArgusT-Sling is a radiopaque cushioned system with a silicone foam pad for soft compression of the bulbar urethra and is implanted via a transobturator approach. Aim of the study was to evaluate efficacy and safety of the ArgusT in male patients with moderate to severe SUI.

Materials and Methods: In a prospective study, 31 patients were treated with the ArgusT. Twenty seven patients were incontinent after radical prostatectomy, 3 after TUR-P and 1 after green light laser treatment. Eleven patients had an additional radiotherapy. Preoperatively, a standardized 24-hour-pad-test, evaluation of daily pad use, uroflowmetry, residual urine and quality of life scores (IQOL and ICIQ-UI SF) were performed and in urodynamic studies detrusor overactivity was excluded.

Results: After a mean follow up of 18.7 months (10-53 months) 19 patients were dry (61.3%) with a pad-test of 0-5g/24h. Nine patients (29.0%) improved. Three patients showed no improvement and are considered failures so far. However, in 2 of the 3 failed patients a re-adjustment was recommended, but the patients refused it until now. Postoperatively, mean PGI-score (Patient Global Impression of Improvement) was 1.7. In mean 0.5 readjustments were performed (0-2). Patients showed a significant reduction of urine loss in the pad-test and of daily pad use and a significant improvement of quality of life ($p>0.001$). No intraoperative complications occurred. Two patients showed a superficial wound infection with emerging of the distal silicon columns in the suprapubic region. After shortening the columns in local anesthesia both patients were treated successfully with antibiotics (sling explantation was not necessary in both cases). In total, two slings were explanted. One sling was due to persistent severe pain and one was due to ineffectiveness. In the second case an artificial urinary sphincter was successfully implanted. One patient suffered from perineal pain for 5 months and a treatment with analgetics was necessary. There was no difference in patients with and without radiotherapy.

Conclusion: The ArgusT-Sling offers an effective and safe treatment option for male patients with moderate to severe SUI in a follow up >1.5 years, even after radiotherapy.

UP.381

Sub-Urethral Tape for Female Urinary Incontinence (TVT, TOT, TVT-O): A Comparative Clinical Study

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Introduction and Objectives: Ttansobturator route is now largely used for the positioning of the supporting sub urethral tape in the surgical treatment of female stress urinary incontinence (SUI). This operation can be done using the original technique from the outside to the inside (Tension -free Vaginal Tape TVT -retro pubic route, TOT - Transobturator Tape) or the new technique by inside to outside (Tension –free Vaginal Tape Transobturator TVT-O). Our clinical study evaluates the specific of each technique.

Materials and Methods: From 1998 until 2012, 260 patients with stress urinary incontinence were undergoing procedure of a tension-free vaginal tape insertion in the mid-urethral part (TVT 121 patients, TOT 70 patients, TVT-0 69 patients). Average age: 53.7 (31-80. Indication of synthetic tape insertion in the lower part of urethra: stress urinary incontinence confirmed by clinical examination or urodynamic examination; vital quality significant worsening, frequently associated to genital prolepses, BONNEY, TVT test or ULMSTEN positive test. Stress urinary incontinence was observed in 201 patients (80.8%), 59 (19.2%) ones had stress urinary incontinence was of mixed type. The women with concomitant pelvic organ prolapse, undergoing with another surgical procedure, were excluded in this study. Out of 139 patients (TOT+ TVT-0), 11 (7.9%) with stress urinary incontinence had inserted TVT, while 3 (2.2%) –pelvic surgery. Average length of operations: 23 minutes (11-54 min.).

Results: Follow-up was evaluated at 3, 6, 12 months after surgery. Stress urinary incontinence (SUI) – in 214 of patients (91.5%) were objectively cured, stress urinary incontinence significant improvement – 17 (7.3%), stress urinary incontinence persisted in 3 patients (1.3%), dysuria – 19 (8.1%), which was considered as insignificant (tolerable) – 14 patients. The three techniques are not equivalent. Tape insertion difficulties – 6 patients (vaginal stenosis) TVT, TOT, moderate bleeding 24 TVT, TOT, lesion of urinary bladder - 3 TVT, lateral lesion of vagina – 3 patients (TVT, TOT), lesion of urethra – 2 patients TVT, TOT, abnormal post-operation ache – 4 cases TVT, TOT; tape can be touched – the rope effect – 3 cases; afterwards repetitive operation – 3 cases; vaginal erosion – 1 case TOT, inguinal region abscess 1 TVT. There was not observed a single complication when using TVT -0 technique as it was applied the transobturator tract, but not a retropubic TVT. Ttansobturator route does not require cystoscopy control; while laying a tape from the interior to the outside the vaginal section and paravaginal dissection is much less. Length of the operation is also much less.

Conclusion: Therefore, nowadays transobturator sub-urethral tape TVT-O (inside to outside) is acknowledged as an advanced method of stress urinary incontinence treatment, as it is simpler from the technical point of view and is not concurred with complications.

UP.382
AdVance Sling Placement Impacts Recovery in Urinary Quality of Life Following Radical Prostatectomy
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Introduction and Objectives: Quality of life (QoL) outcomes are an essential concern among patients undergoing prostate cancer treatment. A longitudinal comparison using validated QoL instruments is valuable in evaluating outcomes. We assess the impact that the AdVance sling had on urinary QoL in patients with post-prostatectomy incontinence (PPI) after radical prostatectomy (RP) using a validated QoL instrument.
Materials and Methods: We retrospectively reviewed the outcomes of men who received an AdVance sling for subsequent PPI after RP for prostate cancer at Eastern Virginia Medical School from 2006 to 2012 by a single surgeon. QoL data was collected prospectively within our institution's QoL database. Each patient completed the University of California Los Angeles, Prostate Cancer Index prior to RP and at intervals for 60 months after RP. Domains included in the questionnaire were urinary function (UF), urinary bother (UB), general urinary function (GUF), bowel function (BF), bowel bother (BB), sexual function (SF), sexual bother (SB), and AUA symptom score. Except for AUA symptom scores, scoring ranged from 0 (worst) to 100 (best) points.
Results: Thirty-eight patients met inclusion criteria. Mean time from RP to sling placement was 24.4 months. Mean follow-up was 26.6 months post-sling placement. Significant declines in UF, UB, SF, and SB were noted from pre-RP to post-RP. Significant improvements were found in UF and UB from pre to post-AdVance with mean improvements of 28.7 and 24.6 points, respectively. No changes were noted in GUF, BF, BB, and AUA scores among time points.
Conclusion: Men undergoing RP have a significant depreciation in urinary and sexual QoL. Although they do not regain their baseline QoL scores, urinary QoL improves significantly after AdVance sling placement. Additionally, no depreciation of bowel or sexual QoL was noted with sling placement, showing that the AdVance sling has favorable impact on PPI after RP.

UP.382, Table 1. QoL Parameters and Results.

	Pre-RP T1 (points)	Post-RP T2 (points)	Post-AdVance T3 (points)	p-Value
UF	89.1	24.1	52.8	T1-T2: $p < 0.0005$ T2-T3: $p < 0.0005$ T1-T3: $p < 0.0005$
UB	89.5	32.8	57.2	T1-T2: $p < 0.0005$ T2-T3: $p < 0.0005$ T1-T3: $p < 0.0005$
GUF	70.6	67.3	72.9	$p < 0.33$
BF	88.5	89.6	86.1	$p < 0.53$
BB	89.5	88.9	87.5	$p < 0.89$
SF	59.8	16.9	22.2	T1-T2: $p < 0.0005$ T2-T3: $p < 0.0005$ T1-T3: $p < 0.0005$
SB	65.8	31.2	36.2	T1-T2: $p < 0.0005$ T2-T3: $p < 0.0005$ T1-T3: $p < 0.0005$
AUA	10.3	12.5	9.3	$p < 0.07$

UP.383
Artificial Urinary Sphincter AMS 800 Implantation after Urethrovesical Anastomosis Stricture Removal
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Introduction and Objectives: Artificial urinary sphincter AMS 800 is the most often used option in treatment of patients with severe stress urinary incontinence (SUI) after prostate surgery. In substantial part of the cases incontinent patients also have urethrovesical anastomosis (UVA) strictures.
Materials and Methods: We evaluated a consecutive series of 33 patients from 2008 till 2013, who had severe SUI after prostate surgery. Average age was 68.2 (56-77) years old. Among them19 (57.6%) men had UVA stricture. The main reasons of SUI were: radical retropubic prostatectomy (RPE) –15 (78.9%) of patients; adenomectomy – 2 (10.5%); transurethral resection of prostate – 2 (10.5%). The methods of removal UVA stricture were: at first - transurethral resection of anastomosis zone, at second – open reconstruction.
Results: After TUR of UVA anastomosis, relapse of stricture was noticed in 8 (42.1%) patients. Then they underwent open reconstruction (plastic) of UVA anastomosis. Three months later there was no stricture relapse. All of 33 patients underwent implantation of artificial urinary sphincter AMS 800. Complications: acute urinary retention – 2 (6%) patients, resolved by catheterization or cystostomy; urethral atrophy – 2 (6%) patients, resolved by conservative treatment; urethral erosion – 2 (6%) patients, resolved by removal of the cuff and mechanical failure in 1 case (3%). After treatment 28 of 33 patients were continent.
Conclusion: Implantation of artificial urinary sphincter AMS 800 may be effective treatment in patients with severe stress urinary incontinence after prostate surgery in cases after removal of UVA strictures. But long-term follow-up is necessary.

UP.384
Artificial Urinary Sphincter Implantation in Russia: A Single Center Experience
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Introduction and Objectives: The artificial urinary sphincter (AUS) is still the best option we have in patients with severe stress urinary incontinence. Despite relatively high rate of complications most of the patients are well satisfied.
Materials and Methods: A total of 33 patients with severe stress urinary incontinence after prostatic surgery were treated with an AMS 800 artificial urinary sphincter between November 2004 and January 2013. In all patients the assessment of continence and quality of life as well as complication rate was performed. The cure was defined as ≤ 1 pad per day, improvement as the reduction of incontinence of more than 50%; success was defined as the sum of cure and improvement. Patient satisfaction was measured

by visual analog scale (VAS).
Results: The mean age was 66 years and the mean follow-up was 37 months. The etiology of incontinence was radical retropubic prostatectomy (RPE) in 25 (75.8%) patients; adenomectomy in 4 (12.1%) and transurethral resection of prostate in 4 (12.1%) cases. The mean time after prostatic surgery was 24 months. The cure and improvement rate were 90.3% and 6.5% respectively, so the success rate was 96.8%. Complications included: acute urinary retention – 2 (6%) patients, resolved by catheterization or cystostomy; urethral atrophy – 2 (6%) patients, resolved by conservative treatment; urethral erosion – 2 (6%) patients, resolved by removal of the cuff and mechanical failure in 1 case (3%). Median VAS score before and after AUS implantation was 35.5 and 81.7 respectively.
Conclusion: For patients with severe urinary incontinence after prostatic surgery the AUS is a safe and effective treatment option with acceptable patient satisfaction.

UP.385
The Effect of Observing the Pattern of Urine Leakage before Adjustment of the Mesh during Transobturator Tape (TOT) Procedure in the Operation Field
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Introduction and Objectives: Intraoperative provocative tests previously reported were performed after adjustment of the mesh just to confirm no leaking of urine, but our test was performed before adjustment of the mesh, and control the tension of the mesh after observing the pattern of urine leakage. We studied whether this method has an effect on the success rate of TOT procedures.
Materials and Methods: The study was conducted on patients selected randomly, who visited the hospital between Jan 2007 and May 2011. A total of 96 patients were included. Forty-seven patients underwent TOT procedure without intraoperative test from Jan, 2007 to Dec, 2009, and 49 patients underwent TOT procedure with intraoperative test from Jan, 2010 to May, 2011. The intraoperative test was done in order to observe the degree and the pattern of urine leakage before applying and adjustment of the mesh. (Bladder filling was done with at least 300 ml of normal saline during intraoperative test.) After observing the degree and the pattern of urine leakage, we applied and adjusted the mesh.
Results: In the group not applied intraoperative test the preoperative and postoperative peak flow velocity and post-voiding residual urine were 25.60ml/sec, 26.90ml/sec and 17.16ml, 29.67ml, respectively. In the group applied intraoperative test the preoperative and postoperative peak flow and post-voiding residual urine were 20.82ml/sec, 45.98ml/sec and 19.77ml, 45.98ml, respectively. In the group not observing the pattern of urine leakage, the cure and improved rate were 70.2% and 27.7%, respectively. In the group observing the pattern of urine leakage, the cure and improved rate were 91.8%, and 8.2%, respectively. There was no significant difference in peak flow velocity and residual urine in both groups. The group applied intraoperative test had a significantly higher cure rate compared to the group not applied intraoperative test (p-value=0.023).
Conclusion: We suggest that intraoperative observing the pattern of urine leakage before applying and adjustment of the mesh is an effective method to confirm whether adequate tension is applied to the tape. Further study and refinement of the method is needed.

UP.386
Single Incision NEEDLELESS®; an Alternative Transobturator Tension Free Tape in Female Stress Urinary Incontinence
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Introduction and Objectives: NEEDLELESS® single incision mesh which is known to minimize groin pain caused by transobturator tape (TOT) is another option in choosing sling materials. We evaluated the effects of NEEDLELESS® in female stress urinary incontinence.
Materials and Methods: A total of 47 patients who underwent NEEDLELESS® were included in this study. All patients had urodynamically proven stress urinary incontinence (SUI) and minimum 24 months were followed up. Detailed history taking, physical examination, 3-day voiding diary were taken before surgery. NEEDLELESS® was implanted through midline anterior vaginal wall incision (2 cm long) to both obturator internus muscles. Postoperatively, we evaluated patients'groin pain, status of incontinence, satisfaction rate, and voiding status.
Results: Mean age of patients was 51.9 years old, and follow up periods was 27.3±4.6 months. Mean preoperative VLPP was 94.2±14.8 cmH2O. There were 18 (38.3%) patients that had urgency, 12 (25.5%) that were mixed incontinence. After implantation, all patients except 1 had no immediate groin pain. Two years later, 32 patients (68.1%) were cured, 12 (25.5%) were improved and 3 (6.4) had failed. de novo urgency and urge incontinence were observed in 4 patients (8.5%) and 1 (2.1%) patient respectively. Voiding stream was slightly weak than before implantation in 13 patients (27.7%), however, no patient required catheterization. Satisfaction rates were as follows; very satisfied in 34 patient (72.3%), satisfied in 6 (12.8%), unsatisfied in 7 (14.9%).
Conclusion: Our results demonstrated that NEEDLELESS® could be considered one of minimally invasive sling materials. Especially, groin pain caused by conventional TOT was minimal. Success and satisfaction rates were comparable to other types of sling material currently used.

UP.387
The Long-Term Outcome of Readjustable Mid Urethral Sling for Stress Urinary Incontinence with Intrinsic Sphincter Deficiency
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Introduction and Objectives: The Remeex (Mechanical External Regulation) sling is a mid-urethral sling that allows adjustment of the sling tension in the postoperative period. We evaluated the long-term outcomes of the procedure in patients in whom the success rate of tension-free slings is low, such as with intrinsic sphincter deficiency (ISD).
Materials and Methods: We included 20 women with urodynamically-proven stress urinary incontinence (SUI) who

underwent the Remeex procedure and were followed for at least 34 months. The patients were considered to have ISD on the basis of a Valsalva leak point pressure (VLPP) <60cmH2O or a maximum urethral closure pressure (MUCP) < 20cmH2O. We analyzed parameters including history taking, urodynamic study (UDS), and postoperative clinical outcomes. Patient's success and satisfaction rates were evaluated after the procedure. Also, we asked about lower urinary tract symptoms (LUTSs) with a questionnaire, and the severity of LUTS was assessed with the Visual Analogue Scale (VAS) before and 34 months after the operation.
Results: The patients' mean age was 58.6±9.58years. Four (23.5%) patients had mixed incontinence. Five patients (29.4%) had undergone previous surgery for SUI. At a mean follow up of 45.4 months (range, 34-72months), 15patients (75%) were cured and 5 patients (25%) were improved. Four patients (20%) answered very satisfied and 16 patients (80%) answered satisfied on the satisfaction questionnaire.
Conclusion: This procedure provides high cure and satisfaction rates. Our results demonstrate that the Remeex procedure is suitable for women with SUI with ISD.

UP.388
Clinical Outcome of REMEEX System for the Treatment of Female Stress Urinary Incontinence
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Introduction and Objectives: The Remeex re-adjustable sling is a mid-urethral sling that allows adjustment of the sling tension in the postoperative period. We evaluated the outcomes, complications and patients' satisfaction after the procedure for recurrent stress urinary incontinence (SUI) and intrinsic sphincteric deficiency (ISD) indications.
Materials and Methods: We enrolled 20 patients with urodynamically proven stress urinary incontinence (SUI) who underwent the REMEEX procedure between May 2007 and April 2009 and were followed for at least 12 months. Preoperatively, the patients were evaluated with history taking, physical examinations, one hour pad tests, urine analysis, urine cultures and complete multichannel urodynamic studies. Postoperative clinical outcomes, patients' success and satisfaction rates were evaluated after the procedure. The surgical results were classified into 3 categories; cured, improved and failed.
Results: The patients' mean age was 55.2 years (range: 38-70 years). Four (20%) patients had mixed incontinence. Fifteen patients (75%) had undergone previous surgery for SUI. At a mean follow-up of 18.9 months (range, 12-39 months), ten patients (50%) were cured and seven patients (35%) were improved. Ten patients (23.5%) answered very satisfied and seven patients (35%) answered satisfied on the satisfaction questionnaire.
Conclusion: Based on our limited experience, this procedure provides high cure and satisfaction rates. Our results demonstrate that the REMEEX system may be an effective procedure regardless of previous incontinence surgical interventions. More clinical studies with long-term follow-up are required for a definite conclusion.

UP.389
A Novel Treatment for Neurogenic Patients with Intrinsic Sphincter Deficiency
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Introduction and Objectives: Stress urinary incontinence (SUI) can be a debilitating problem in neurogenic patients with sphincter dysfunction, causing discomfort, embarrassment, and social anxiety. Urethral suspension using a male sling may be beneficial to these patients' continence outcomes. We report our initial experience using male slings to treat SUI in adult neurogenic patients with intrinsic sphincter deficiency.
Materials and Methods: In the past two years, five adult neurogenic patients ages 18−49 were offered AdVance male slings to treat SUI occurring between self−catheterizations. All five suffered from neurogenic sphincteric deficiency and SUI. They used an average of 3.6 pads per day (+/− 1 pad), and leaked during strenuous activity and transfers. Two underwent bladder augments in addition to a male sling. Median follow−up was 5 months (range 2 to 13). Data gathering was through review of medical records and phone interviews. ICIQ and subjective parameters were used evaluate outcomes.
Results: All patients reported complete resolution of their SUI after receiving the AdVance male sling. Average pre and post−operative ICIQ scores were 17 and 1.25 respectively. Average reduction in ICIQ score was 15.7 (SD of 3.1, Median of 15.5). Average length of stay was less than one day. Post−operative pad use was reduced to 0 in most patients, with one patient still using a dry pad daily for safety. All patients reported the operation as a "success" and reported that they would recommend the procedure to others with their condition.
Conclusion: The AdVance male sling is an effective way to treat neurogenic patients with SUI from sphincter deficiency. Its use in neurogenic patients with no prior urethral or prostatic surgery indicates that its compressive effect may be sufficient to provide measurable results. With longer follow−up, these results may be comparable with the gold standard, Artificial Urinary Sphincters, which carry a higher rate of revision. In our small sample, the results, both subjective and objective, show a clear benefit in using male slings in these neurogenic patients.

UP.390
Double Dose of Antimuscarinic for the Treatment of Neurogenic Detrusor Overactivity
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Introduction and Objectives: Neurogenic detrusor overactivity (NDO) is a bothersome condition, with increased incidence and a long list of subsequent complications. While antimuscarinics remain the first line therapy, there are many cases where the efficacy of treatment is sub-optimal, prompting for an alternative. We present our data from a prospective, open-label clinical trial with 20 mg of solifenacin a day.
Materials and Methods: All the patients started with a dose of 10mg solifenacin a day. After one month, the patients who were not satisfied with the efficacy of the treatment were given the choice to opt for a double dose of the drug, while others remained stable on the initial dose, for the next two months. Patients' evaluation included 3 days bladder diary, urinalysis, ultrasonography and filing cystometry, done at the inclusion and at the final visit. All adverse effects and observations of the patients were recorded during the study. We compared data from the bladder diary and cystometry between the two arms, at the end of the three months

treatment, using the t-test analysis.
Results: A total number of 29 patients completed the study (19 males, 10 females), with various neurological conditions: spinal cord injury (SCI) – 10 cases, multiple sclerosis (6), Parkinson's disease (PD) – 5 cases, and stroke – 6 cases. After one month, 13 patients switched to the 20 mg dose. Final data shows statistically significant improvements in voided volume, number of micturitions, Pdet max and reflex volume. There was a decrease in the number of incontinence episodes and an increase in post void residual volume (PVR), both without statistical significance (see Table 1 for actual data). Patients reported improvements as early as 7 days after shifting to the 20 mg dose. There was an obvious increase in the rate and intensity of common adverse reactions (dry mouth, constipation, dizziness, etc). By the end of the trial, no patient discontinued the treatment and no serious adverse events occurred.
Conclusion: A 20 mg dose of solifenacin is a good conservative treatment option for NDO. The storage and voiding parameters are improved, and the rate of adverse reactions, although higher, is fully balanced by the benefits and still reasonable for the patient.

UP.391
The Calcium-Release-Activated Calcium Channels Role in Contractile Response of Isolated Human Urinary Bladder Smooth Muscle
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Introduction and Objectives: Urine continence is dependent on urinary bladder (UB) ability to store urine at low pressure (by active relaxation of detrusor) and mechanism resulting in urethral pressure higher than urine pressure in UB. At the cellular level, these processes are strongly associated with cytoplasmic calcium levels ([Ca2+] IC). Increases of [Ca2+] IC occur primarily as a result of extracellular Ca2+ entry through plasma membrane ion channels and release of Ca2+ from the endoplasmic reticulum (ER). Except for voltage-gated channels, the Ca2+ metabolism is dependent on store-operated channels (SOCs) activity. The morphological studies confirmed presence of more SOCs on UB smooth muscle (SM), e.g. TRP channels, and their involvement in UBSM was evidenced. Recently, TRPC4 channels and calcium-release-activated calcium channels (CRAC) role is discussed as possible mechanisms in urine incontinence pathogenesis. CRAC, Ca2+-high selective ion channels, consist of Ca2+ sensor - protein STIM1 located on ER and plasma membrane protein Orai1. The mutation of STIM1 protein leads to persistent accumulation and permanent activation of CRAC.
Materials and Methods: Presented study was aimed on investigation of relationship between CRAC and contraction/relaxation mechanisms of UBSM by pharmacological method. All experiments were approved by Ethics Committee of the Jessenius Faculty of Medicine (decision No. EK 611/2010). Human UBSM samples were collected from 14 men during radical prostatectomy according to well defined criteria. Carbachol (10-5 M/l) initially precontracted-tissue strips (10x3x5 mm) contractile response to cumulative doses of CRAC inhibitor (3-fluoropyridine-4-carboxylic acid, c=10-6-10-3 M/l) and control drug oxybutinin (c=10-6-10-3 M/l) were tested by tissue bath method. The occurrence of CRAC on UBSM cells was analyzed immunohistochemically (using anti-Orai1 antibody).
Results: CRAC antagonist significantly ($p \leq 0.05$ and $p \leq 0.01$) and dose-dependently decreased contractile amplitude of UBSM strips in comparison to initial carbachol-induced contraction. This response was similar to oxybutinin-induced UBSM relaxation. Immunohistochemical staining visualized CRAC as mild or middle membrane positivity.
Conclusion: The results confirmed significant role of CRAC in UBSM cells contraction mediated by parasympathetic nervous system. According to effectiveness of CRAC antagonist similar to oxybutinin, the knowledge resulting from the study may possibly influence pharmacotherapy of diseases accompanied by the pathological changes of UBSM contractility.

UP.392
Surgical Management of Male Incontinence
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Introduction and Objectives: Urinary incontinence secondary to surgery or trauma is a debilitating condition for the patient, and for the urologist a difficult situation to manage. Because of the complexity of reconstructive surgical techniques and the cost of the prosthetic devices used, there is a need for a simple procedure. We here in report our experience in managing urinary incontinence secondary to sphincteric incompetence in 7 patients using a modified bulbar urethral sling procedure over a period of 5 years.
Materials and Methods: Between March 2004 and January 2012 fifteen patients 30-78 years old (mean age 54) with moderate to severe incontinence underwent the modified bulbar urethral sling procedure with polypropilene (Prolene) mesh implant at the Department of Urology, Liaquat National Hospital, Karachi. After midline transperineal incision a 2cm×3cm pyramid shaped prolene mesh was placed against the bulbar urethra and suspended by six prolene sutures three on each side anchored with the inferior pubic rami. Tension over the urethra was controlled with impeding flow of irrigant. Height of the irrigant source was 40 cm

UP.390, Table 1.

	Voided vol (bladder capacity)	Number of voids	Incontinence episodes	PVR	V reflex	Pdet max
10 mg arm	280.63 ± 101.19	11.19 ± 3.1	3.44 ± 3.93	120 ± 70.8	238.44 ± 95.86	44.69 ± 15.71
20 mg arm	358.85 ± 101.22	8.23 ± 1.74	2.92 ± 2.81	143.08 ± 73.64	310.23 ± 93.59	34.08 ± 8.84
p-value	0.0482	0.005	0.6952	0.3988	0.0526	0.0392
Conclusion	**Sign improved**	**Very sign improved**	**Not sign decreased**	**Not sign increase**	**Sign improved (borderline)**	**Sign improvement**

from the operating table. Mesh tightened until flow stops. Anchoring sutures were tied. Incision closed in layers with absorbable suture. Catheter placed for 24 hrs.
Results: All patients were continent postoperatively, with only mild stress leakage in the erect posture in two patients, during a mean follow-up of 30.5 months (range 3-58 months), and required one or sometimes two pads per day to remain continent during the daytime. One patient required clean intermittent catheterization for a short period postoperatively.
Conclusion: The male bulbar urethral sling procedure using a polypropilene mesh is economical and safe but further experience is needed to establish this procedure as an alternative for the treatment of male urinary incontinence.

UP.393
Impact of Exercise Therapy on Nocturnal Polyuria and Sleep Quality
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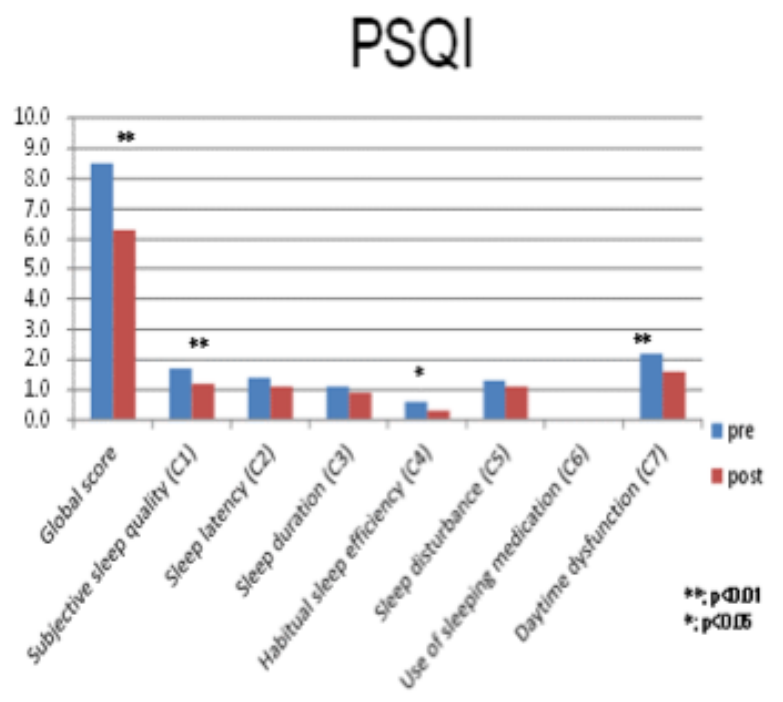
Introduction and Objectives: Discussed with respect to the impact of exercise therapy (walking, jogging) before dinner on nocturnal polyuria (NP) and sleep quality.
Materials and Methods: Twenty patients who visited our department complaining of nocturia (NP). There is no complaint about the urination except NP and no clinical complications or medication that affect urine volume. Everyone had done, 30 - 60 min. (mean 47 min.) early morning walk, for these patients I asked to walk at least 60 minutes before dinner for one month (may also walk in the early morning) without any medication or specialized advice including water intake. Before and after treatment, I asked to record 3-days voiding diary, IPSS, Subjective treatment satisfaction (VAS; 0 very satisfied – 10 very dissatisfied), and Pittsburgh sleep quality index (PSQI), and evaluated clinical efficacy of this treatment.
Results: All 20 patients, early morning exercise (walk) is done by continuously, exercise before dinner were added voluntarily (jogging in the 14 cases) [mean 68.2 (52-80) min.]. Daytime urine vol.; 1292 – 1071ml ($p<0.001$). Daytime maximum voided vol.; 234 – 272ml ($p<0.001$). Nocturnal urine vol.; 793 – 443ml ($p<0.001$). Nocturnal maximum voided vol.; 267 – 315ml ($p=0.002$). Nocturnal frequency; 2.3 – 1.6 times ($p=0.025$). Hours of undisturbed sleep (HUS); 3.0 – 4.4 hrs. ($p<0.001$). NPi; 37.0 – 29.4% ($p<0.001$). Water intake; 25.5 – 25.0 ml/kg (ns). IPSS; 13.2→10.0 ($p<0.001$). IPSS QOL; 4.3→3.0 ($p<0.001$). Subjective treatment satisfaction; 7.2→4.3 ($p<0.001$).
Conclusion: In this study, it was very effective to exercise before dinner for reducing not only nocturnal urine vol., frequency, but daytime urine vol. and frequency, maximum voided vol., HUS, and quality of sleep, which might affect improvement of subjective treatment satisfaction. If we select appropriate cases, only adequate exercise might contribute improvement of NP and quality of sleep.

UP.393, Figure 1.



UP.394
The Efficacy and Tolerability of Mirabegron, Selective β3-Adrenoceptor Agonist, for Elderly Patients with Overactive Bladder
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Introduction and Objectives: Anti-muscarinic agents are the first line treatment of overactive bladder (OAB). However, some patients have the unfavorable compliance by their adverse events, such as constipation, dry mouth, and dysuria. We need to concern about such adverse events especially in elderly patients. Mirabegron, selective β3-adrenoceptor agonist, is now commercially available to be considered an attractive alternative to anti-muscarinic agents. The aim of this study was to assess the efficacy and tolerability of mirabegron, selective β3-adrenoceptor agonist, for elderly patients with overactive bladder in clinical practice.
Materials and Methods: OAB patients more than 75 years old were enrolled. Patients were received once daily mirabegron 25mg/50mg. The 3-days frequency volume chart was assessed before and after the treatment. The severity of OAB symptoms and the bother specific to each OAB symptom were assessed using 2 questionnaires the OAB symptom score (OABSS) and the visual analogue scale (VAS) questionnaires for each OABSS (OABSS-VAS), respectively. The data were compared between during administration of anti-muscarnic agents versus that of mirabegron (without washout period of anti-muscarnic agent between the two treatments).
Results: Total 57 patients (22 female and 35 male, average age 79.9±3.94 years) were enrolled. Average treatment time period was 66.3±71.6 days. The symptom score of nocturia ($p<0.0001$), urgency ($p=0.0006$), and urgency urinary incontinence ($p=0.0061$) in OABSS were significantly improved by mirabegron. Total OABSS score also demonstrated significant improvement (10 points to 8.3 points, $p=0.022$). The VAS-rate of

bothersome for nocturia (p=0.0071), urgency (p=0.0335), and OAB-related QOL (p=0.0002) showed significant improvement. As adverse events during the study period, there were increase of residual urine volume (two patients), sense of dysuria (one patients), general fatigue (one patient), and pruritus (one patient). There was no patient complaining of constipation and dry mouth.
Conclusion: This study suggests that oral daily mirabegron could be effective and safe for elderly OAB patients. Longer-follow-up study with larger number of cohort is clearly needed.

UP.395
Objective Efficacy of Mirabegron on Storage and Voiding Function in Patients with Overactive Bladder, Based on Urodynamic Study
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Introduction and Objectives: Overactive bladder (OAB) is a symptom syndrome that is defined as urinary urgency. Although anti-muscarinic agents are currently the mainstay pharmacotherapy for the treatment of OAB, anti-muscarinic therapy is limited by associated adverse events. Mirabegron is a novel, β3-adrenoceptor agonist. The results of the phase III clinical trials have reported to relieve subjective symptoms associated with OAB. However, objective evidence proving that, this drug is effective in improving storage function and does not affect voiding function is absent. We administered mirabegron to women with OAB and evaluated the effects on storage and voiding function based on a urodynamic study (UDS) performed before and after drug administration.
Materials and Methods: In this prospective study, we enrolled 40 treatment-naïve women with OAB symptom scores (OABSS) of ≥3 and ≥1 urgency episodes a week. The patients received 50 mg mirabegron once a day for 12 weeks. The OABSS was conducted before and after administration to evaluate subjective symptom severity. In this UDS, we assessed the first desire to void (FDV), maximum cystometric capacity (MCC), and occurrence of uninhibited detrusor contraction as parameters of storage function. Maximum flow rate (Qmax), detrusor pressure at Qmax (PdetQmax), and residual urine volume (PVR) were assessed as parameters of voiding function.
Results: The patients' mean age was 71.4 years. Between pre- and post-administration, the mean OABSS score decreased from 8.8 to 5.6 points ($p < 0.001$). From the UDS results, we observed a statistically significant improvement in the storage function parameters, with mean FDV increasing from 115 to 138 mL ($p = 0.01$) and MCC from 188 to 237 mL ($p = 0.01$). Although uninhibited detrusor contraction was observed in 29 patients (72.5%) before administration, no contraction was observed in 16 of these 29 patients (55.1%) after administration ($p = 0.02$). On voiding function, mirabegron does not inhibit voiding function.
Conclusion: Mirabegron was shown to be effective in women with OAB in terms of both subjective symptoms and bladder storage function. In addition, this drug does not affect voiding function, and the incidence of side effects is low. Mirabgron may be a new therapeutic alternative for treating OAB.

UP.396
Long-Term Persistence of Anticholinergic Treatment for Patients with Overactive Bladder
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Introduction and Objectives: We investigated long-term persistence during 2-year follow up period after anticholinergic administration for patients with overactive bladder (OAB) in real-time clinical practice.
Materials and Methods: A total of 193 patients (34-90 year-old, median 72) were prescribed with anticholinergic drugs (75 solifenacin, 44 tolterodine, 37 imidafenacin, 37 propiverine) during April 2006 to March 2010 at Kawasaki medical school (86 male patients, 107 female patients). They did not receive OAB related treatment before. Subjective symptoms were assessed using the International Prostate Symptom Score (IPSS), QOL index, and Overactive Bladder Symptom Score (OABSS). Chart review was retrospectively conducted about at least 2 years follow up.
Results: Mean IPSS, QOL index, and OABSS at first visit were 15.3 points, 4.8 points, and 9.1 points, respectively. Mean medication period was 15.4 months (male 18.4 months, female 13.0 months, p=0.019). Seventy-five of 86 (87.2%) male patients were administrated alpha 1-blocker for benign prostatic hyperplasia (BPH). The persistent rates including changed medications were 52.4% and 40.5 % at 12 months, and 24 months, respectively. The persistent rates excluding changed medications were 23.4% and 17.4 % at 12 months, and 24 months, respectively. Twenty patients (10.4%) referred to other hospitals for their convenience. One hundred thirty-four patients (69.4%) stopped taking medication because of 63 (32.6%) improvement, 63 (32.6%) lack of efficacy or lost to follow-up, 8 (4.1%) adverse events. Fifty-eight patients (30.1%) complained of adverse events (30 dry mouths, 29 constipations, 10 difficulties on voiding, 2 general fatigues, 2 rashes, 1 liver dysfunction, 1 dementia).
Conclusion: Only 17.4 % of patients continued with same anticholinergic drug during a 2-year follow-up period. In regard to gender, persistent rates of male patients were higher than that of female patients.

UP.397
A Randomized, Double-blind, Parallel Design, Multi-institutional, Non-inferiority Phase IV Trial to Compare Imidafenacin versus Fesoterodine in Patients with Overactive Bladder
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Introduction and Objectives: Imidafenacin is a novel antimuscarinic agent with M1 and M3 receptor selectivity. Our objective was to compare efficacy and safety of imidafenacin over fesoterodine in patients with overactive bladder (OAB).
Materials and Methods: This is a randomized, double-blind, parallel-group, fesoterodine-controlled study in patients with continuous OAB symptom for ≥3 months, ≥8 daily mean voiding frequency (DMVF), and ≥2 daily mean urgency or urgency incontinence frequency. Participants received twice-daily administration

of imidafenacin 0.1 mg with placebo, or once-daily administration of fesoterodine 4 mg with placebo for 12 weeks. Primary efficacy endpoint was the difference in DMVF at 12 wk. Secondary efficacy endpoints were differences in daily mean: (1) voiding frequency at 4 and 8 wk; (2) urgency frequency; (3) urgency incontinence frequency; (4) incontinence frequency; (5) nocturia frequency; and (6) quality of life score. Variables for safety analysis were adverse events, vital signs, residual urine volume, and clinical laboratory tests. Efficacy analysis was conducted to per-protocol patients and the safety analysis was to entire randomized patients.
Results: Differences in DMVF at 12 wk were -3.38±3.63 and -2.45±3.73 in imidafenacin and fesoterodine groups, respectively, and the difference was not significant between the 2 groups. Imidafenacin was non-inferior to fesoterodine with the lower limit of 95% two-sided confidence intervals was -0.53. Other 6 secondary endpoints and variables for safety analysis showed no difference between the 2 groups.
Conclusion: Imidafenacin was non-inferior to fesoterodine in terms of efficacy, and showed no significant difference in terms of safety.

UP.398
Validity of Uroflowmetry Measured During 24 Hours
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Introduction and Objectives: Objective of study was to establish clinical value of uroflowmetry in asymptomatic male population. Study was performed while normal living regime and conditions of patients.
Materials and Methods: Group of 111 healthy male volunteers with age ranging from 18 to 30 years measured their miction using ambulatory uroflowmeter Danflow 4000 during 48 hours within their normal living rhythm. Volunteers also made notes about time of miction, miction volume and intake of liquids into miction diary. They measured maximum flow (Q max), Q mean, Vura and total volume.
Results: We have analyzed 1 181 reports from the miction diaries. Average maximal flow value (Qmax) was 27.85 ml/s, median 27.90 ml/s and modus was 17.10 ml/s. No relationship on certain daytime was identified. Evaluation of relationship of Q max, Q mean and Vura proved clear correlation of flow and Vura with 95% confidence.
Conclusion: We have not observed any dependency of uroflowmetric values on daytime in male category between 18 - 30 years. We have observed relationship of middle and maximal flow on volume of urine in the bladder. One single measurement has sufficient clinical value in healthy men.

UP.399
The Use of α 1-adrenoceptor Antanogists, Tamsulosin 0.4mg for the Treatment of Neurogenic Voiding Dysfunction: a Prospective 12-week Study
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Introduction and Objectives: To investigate the effects of α 1-adrenoceptor antanogists, tamsulosin 0.4mg, on voiding parameters for the treatment voiding dysfunction in patients with neurogenic bladder.
Materials and Methods: One hundred and five patients (40 men and 65 women), ranging from 35 to 68 years of age (mean age, 37.17 years) with neurogenic bladder for at least 12 months were analyzed. Follow up evaluation for the International Prostatic Symptom Score (IPSS) and uroflowmetric parameters of maximal flow rate (Qmax), postvoid residual urine (PVR), and residual urine percent (PVR%, voiding efficiency) were performed before and after treatments with 0.4 mg tamsulosin daily for 12 weeks. The patients who could not void at all and those with an indwelling catheter, severe prostatic enlargement, or urethral stricture were excluded.
Results: After treatment, IPSS-total (from 25.66±6.88 to 22.45±7.85, p=0.001), obstructive (from 11.77±4.73 to 10.48±5.02, p=0.001) and irritative symptom score (from 9.50±3.19 to 8.19±3.17, p=0.001) were significantly improved. On uroflowmetry, the Qmax (from 11.98±7.54 to 17.60±10.33, p=0.001) and PVR% (from 36.74±29.13 to 22.65±20.02, p=0.001) were improved significantly. On the other hand, symptom bother score did not change significantly after treatment. Adverse event was mild and tolerable.
Conclusion: Tamsulosin 0.4mg improves overall symptom score and uroflowmetric parameters, increasing Qmax and reducing residual urine percentage, in patients with neurogenic voiding dysfunction.

UP.400
The Current Place of the Ice Water Test as a Provocative Maneuver?
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Introduction and Objectives: The Ice Water Test (IWT) has been known to be useful for detecting detrusor overactivity during cystometry since the 1950s. Our study aims to assess its role in the contemporary age, among other, more modern tests.
Materials and Methods: Between January 2010 and January 2013 in our department we performed a prospective study on 87 invasive urodynamic investigations for various indications, including stress urinary incontinence, overactive bladder, SCI or other neurogenic disorders, during which no detrusor overactivity could be demonstrated. The patients were 39 males (29-74 years old) and 48 females (21-64 years old). During cystometry, 100ml of sterile water at 4 C was instilled into the empty bladder. The test was considered positive if any detrusor contraction was observed on the Pdet curve on the urodynamic machine. Data was recorded into the patient file and integrated in the clinical context of the examination. Three groups were defined based on the indication for urodynamics: A. Stress urinary incontinence (28 cases), B. Idiopathic overactive bladder (45 cases), C. Neurogenic bladder (5 patients), D. Other indications (9 cases). The results of the IWT were assessed for each group.
Results: In the A group, the test was positive in 1 male and 2 females (10% overall). In the B group, the test was positive in 42 cases, 19 males, 23 females (93% overall). In the C group, the test was positive in all 5 patients. In the D group, 1 patient developed detrusor overactivity after the test.
Conclusion: The IWT is a not expensive but reliable tool that is able to differentiate neurogenic conditions from other pathologies. The main indication seems to be idiopathic overactive bladder, since in the neurogenic bladder the overactive detrusor is usually easy to demonstrate.

UP.401
Analysis of the Schoolchildren Diagnosed with Vesicoureteral Reflux (VUR)
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Introduction and Objectives: We reviewed patients diagnosed with vesicoureteral reflux (VUR) after they entered elementary school.
Materials and Methods: Between January 2001 and December 2010, a total of 107 patients of school age were diagnosed with VUR at our hospital. Mean patient age was 7 years (range 6 to 16) and male to female ratio was 41:66. Data was analyzed retrospectively for all patients.
Results: The cause of the diagnosis were febrile urinary tract infection (f-UTI) in 68 (64%), pyuria in school urinalysis in 22 (21%), urinary incontinence in 9 (8%), and others in 8 (7%), respectively. There is no difference in the cause of the diagnosis between boys and girls. The grades of VUR were low in 45(42%), intermediate in 38(36%), and high in 24(22%). High-grade VUR were frequently seen in boys rather than in girls. Cases diagnosed by the cause of urinary incontinence were all low or intermediate grade. On the other hand, boys diagnosed by school urinalysis were all high grade. Renal scars were observed in 86 (80%) of 101 cases investigated by 99mTc-DMSA (dimercaptosuccinic acid) renal scintigram. Six small kidneys were seen. For four cases, all grade V boys, they had already been in the condition of renal insufficiency at the time of diagnosis. There were 83 cases (77.6%; 74 open surgery, 9 endoscopic injection) who had undergone surgical therapy during the follow-up period. Spontaneous resolution occurred in 5 cases (2 boys and 3 girls). These three girls were undergone only urotherapy (correction of bladder bowel dysfunction).
Conclusion: As with younger patients, schoolchildren were diagnosed as VUR mainly by f-UTI. Pyuria of school urinalysis in boys suggests high grade VUR and renal insufficiency, so careful consideration is required. VUR cases found in the examination of urinary incontinence are often of mild degree, so we should give the control of urination and defecation prior to the surgical treatment.

UP.402
Prognostic Nutritional Index Is a Prognostic Factor in Patients with Renal Cell Carcinoma
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Introduction and Objectives: Preoperative assessment regarding a patient's immunological and nutritional condition is required to predict the outcomes of patients with malignant tumors. The aim of the current study was to clarify the significance of Onodera's prognostic nutritional index (PNI), which can simply account for the immunological and nutritional conditions, in patients with renal cell carcinoma.
Materials and Methods: We included 1,475 patients who underwent radical or partial nephrectomy for RCC between 1994 and 2008. The PNI was calculated using the following formula: 10 x serum albumin concentration (g/dl) + 0.005 x lymphocyte count (number/mm^2) in peripheral blood. The correlations of the preoperative PNI value with clinicopathological features were examined. A Cox proportional hazards model was used to evaluate the prognostic significance.
Results: The mean preoperative value of the PNI was 52.68 ± 6.37 (range: 27.7-85.3). The mean values of the PNI in patients with greater tumor T stage ($p<0.001$), regional lymph node metastasis ($p<0.001$), distant metastases ($p<0.001$), higher Fuhrman grade ($p<0.001$), and sarcomatoid differentiation ($p<0.001$) were significantly lower than those in patients without such factors. The mean value of the PNI among patients was set as the cutoff value to divide two groups (PNI < 52 and PNI > 52). The mean age ($p<0.001$), ASA score ($p<0.001$), and tumor size ($p<0.001$) in lower PNI group was significantly higher than that in higher PNI group. The pathological T stage ($p<0.001$) and Fuhrmann grade ($p<0.001$) in lower PNI group was significantly greater than that in higher PNI group. The proportions of regional lymph node involvement ($p<0.001$) and distant metastases ($p<0.001$) in lower PNI group were significantly higher than those in higher PNI group. Not only age ($p<0.001$), low body mass index ($p=0.014$), the tumor stage ($p<0.001$), distant metastasis ($p<0.001$), Fuhrman grade ($p=0.001$), and sarcomatoid differentiation ($p=0.020$), but also a PNI ($p=0.024$) of less than 52 were found to be independently correlated with a worse prognosis of patients with renal cell carcinoma.
Conclusion: The PNI can be used as a simple prognostic indicator in renal cell carcinoma.

UP.403
Adrenalectomy against Solitary Metastatic Adrenal Tumor
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Introduction and Objectives: Whether adrenalectomy against solitary metastatic adrenal tumor gives better prognosis or not has not been yet established. Moreover indication of laparoscopic adrenalectomy (LAD) against metastatic adrenal tumor remains controversial. The aim of this study is to clarify the meaning of adrenalectomy itself and indication of LAD against metastatic adrenal tumors.
Materials and Methods: From September 2002 to March 2011, 17 metastatic adrenal tumors out of 13 patients underwent adrenalectomy in Tokai University Hospital. LAD and open adrenalectomy (OAD) were performed for 12 and 5 glands, respectively. We review the morbidity and perioperative results.
Results: The primary lesions of the metastatic adrenal tumors were renal cell carcinomas in 5 patients (5 adrenal glands), non-small-cell lung cancer in 6 (8 adrenal glands), breast cancer in one (bilateral adrenal glands) and osteosarcoma in one (bilateral adrenal glands). Mean tumor diameters in LAD and OAD were 44.5 and 83.5 mm, respectively. Mean operative times for each procedure were 147 and 223.5 minutes, and mean blood loss were 78.7 and 340 ml, respectively. There was no conversion from LAD to OAD during the operation. Regarding to the prognosis in renal cell carcinoma, three patients died of cancer (24 months, 28 months and 56 months after adrenalectomy), one patient is alive for 69 months with cancer, and one patient died of other cause 12 months after LAD. In non-small-cell lung cancer, three patients died of cancer (12 months, 55 months and 5 months after adrenalectomy) and three patients are alive without cancer (for 24 months, 25 months and 19 months). The patient of breast cancer is alive for 71months, and the patient of osteosarcoma died 41 months after OAD.
Conclusion: Although two patients of non-small-cell lung cancer died within 12 months after the operation, adrenalectomy against solitary metastatic adrenal tumors is likely to have better influence on patient's prognosis. LAD in such situation seems to be equally effective and less invasive to OAD.